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IUCN WCPA

Best Practice Guidelines on Geoconservation in Protected and Conserved Areas

by: **ProGEO**
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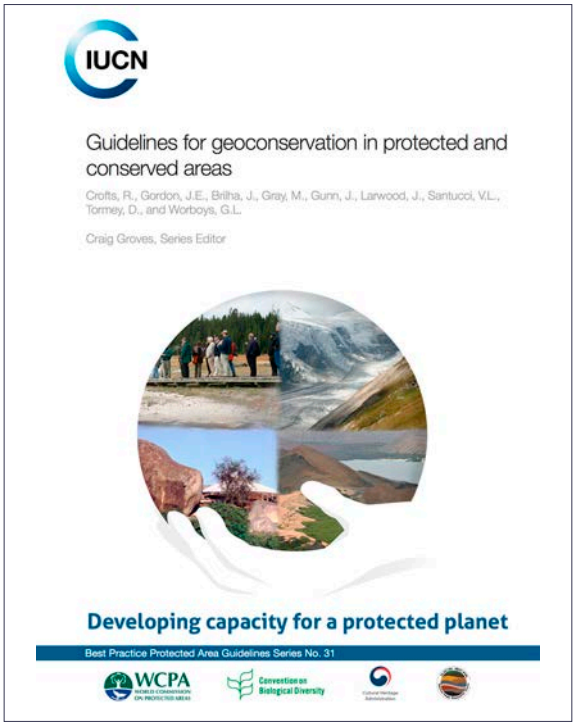
This best practice guideline, number 31 in the series, is the first to address a fundamental part of nature - geodiversity and geoheritage and it protection and conservation fowling the broadening of the IUCN definition of a protected area to embrace all of nature.

Written by an international team of experts in easy to understand language, this guideline is principally for the use by protected area managers and staff and their advisors. It spells out why geoheritage conservation (geoconservation for short) is needed, contrary to the popular view that it is stable and cannot be damaged. It describes the commonly accepted values of geoconservation, including the all-important link with biodiversity conservation through ecosystem functionality. Nine fundamental principles of geoconservation are described and examples provided. The guideline focusses, in particular, on how to establish geoconservation protected and conserved areas alone or as an addition to existing systems for biodiversity and cultural diversity conservation for example. Much of the guideline focuses on setting up management systems, monitoring change, with examples provided from around the world on recent best practice. Specific attention is given to the management of threats from human activities, including climate change and what steps should be taken to deal with them. Particular attention is given to four situations common around the world: cave and karst areas, glacial and periglacial areas, volcanic areas, and minerals and fossils. Best practice in educating the public completes the guideline.



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The text is easy to select for the readers particularly interests and needs with a signposted chart and table in the first section. Twenty two best practice guidelines are provided to help users in their work. Over 150 photographs and a dozen boxed examples provide information on situations from most continents. A comprehensive and up to date reference list is attached and is readily accessible through DOI. To ensure that the language and technical terms are easily understood by users, it uses relatively few in the text and provides, for the first time in IUCN, a comprehensive glossary of earth science terms.

Launching the publication, the lead author and production manager Roger Crofts said "embracing all aspects of nature, recognising their interactions and ensuring conservation of features and processes is even more important now than ever before. I hope that this guideline, with the examples provided, will help managers staff, and their partners recognise the importance of geoconservation and improve its achievement in practice."

Dr Kathy MacKinnon the WCPA Chair in her Foreword states "These guidelines are the result of an international cooperation within the recently formed WCPA Geoheritage Specialist Group. This group is expanding all of the time and has expertise and experience on all aspects of geoheritage and its conservation. Members are ready and willing to help protected and conserved area colleagues in their work. I commend these guidelines on geoheritage to all involved in the establishment and management of protected and conserved areas to ensure that we protect our geodiversity as well as biodiversity heritage."

The volume is dedicated to Dr Graeme Worboys, one of the authors and a global figure on geoconservation, who sadly died before its completion.

Geotourism Books

An overview on Geoconservation Concept through Geotourism

by: **Bahram Nekouie-Sadry**
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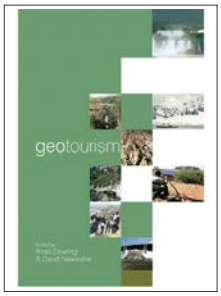
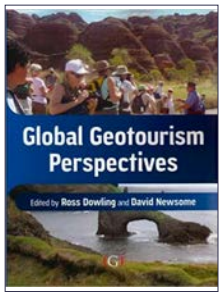
Worldwide there are several publications integrating geology and tourism in various languages and at different scales. Reviewing comprehensive academic works of geotourism published since 1999 by various authors from different countries and different languages (e.g., Albanian, Chinese, English, Persian, Spanish) shows that in the last decades, there has been a considerable development of the geotourism concept in the literature alongside the Geopark initiatives. Barettino, Wimbledon and Gallego published the book: "Geological Heritage: Its Conservation and Management" (Madrid, 2000) and include contributions on geotourism from European countries as the fruit of the 3rd ProGEO Symposium that was held in Spain in 1999.

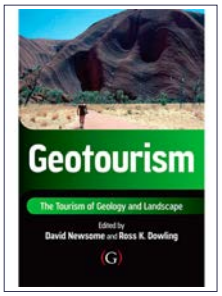
After this, some works were published such as the book: "Geological Heritage and Geotourism in Albania" in 2003. In 2006, the first comprehensive (English) geotourism book was published by Ross Dowling and David Newsome, titled "Geotourism" (edited by Elsevier). Later, others published about geotourism: Nekouie-Sadry "Fundamentals of Geotourism With Special Emphasis on Iran" (2009) in Persian with a English summary; Urban and Gagol "Geological Heritage of the OE ewiętokrzyskie (Holy Cross) Mountains" (2008); Asrat, Demissie, Mogessie "Geotourism in Ethiopia" (2009); Raukas, Bauert, Willman, Puurmann, Ratas "Geotourism Highlights of The Saaremaa and Hiiumaa Islands, GeoGuide Baltoscandia, Tallinn" (2009); Garofano "Geotourism. The geological Attractions of Italy for Tourists" (2010); Farsani, Coelho, Costa, Neto de Carvalho: "Geoparks & Geotourism: new approaches to sustainability for the 21st century" (2012); Wimbledon and Smith-Mayer "Geoheritage in Europe and its Conservation" (2012), included contributions on geoheritage and geological sites from 37 European countries. From 2006 to 2015 two geotourism books were published: by Dowling and Newsome "Global Geotourism Perspectives" and by Newsome and Dowling "Geotourism: The Tourism of Geology and Landscape". Another comprehensives books were published by Erfurt-Cooper and Cooper: "Volcano and Geothermal Tourism: Sustainable Geo-Resources for Leisure and Recreation" (2010) and "Volcano and Geothermal Tourism: Sustainable Geo-Resources for Leisure and Recreation" (2015). In 2016, Thomas A. Hose edited two books entitled "Geoheritage and Geotourism: a European Perspective," and "Appreciating Physical Landscapes: Three Hundred Years of Geotourism" being the last one an outcome of the "Appreciating Physical Landscapes: Geotourism" conference, at The Geological Society on 2012.

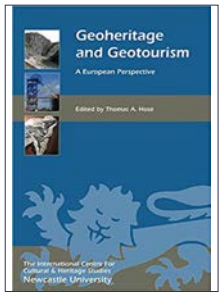
The recent reference books include "Geoheritage: Assessment, Protection and Management" (Reynard and Brilha, 2018) and "A Handbook of Geotourism" (Dowling and Newsome, 2018), each of them contemning contributions from at least 45 co-authors and experts around the world. The newest reference book, "The Geotourism Industry in the 21st Century" edited by Sadry includes contributions from 35 geotourism worldwide experts.

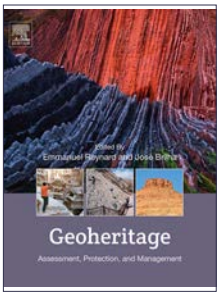
Editor	Book name	Year	Publisher	Contributors
R. Dowling & D. Newsome	Geotourism	2006	Elsevier	27
R. Dowling & D. Newsome	Global Geotourism Perspectives	2010	Goodfellow	21
D. Newsome & R. Dowling	Geotourism: The Tourism of Geology and Landscape	2010	Goodfellow	35
T.A. Hose	Geoheritage and Geotourism: a European Perspective	2016	Boydell Press	12
E. Reynard & J. Brilha	Geoheritage: Assessment, Protection and Management	2018	Elsevier	46
R. Dowling & D. Newsome	A Handbook of Geotourism	2018	Elgar	52
B.N. Sadry	The Geotourism Industry in the 21st Century	2020	Apple Academic Press	35

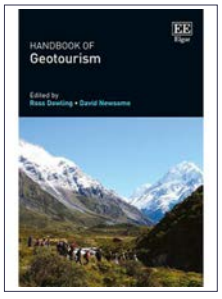


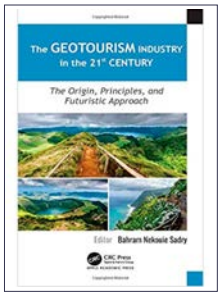












ProGEO member

by: **Sarah Gatley** & **Clare Glanville**
[gatleys39@gmail.com & Clare.Glanville@decc.gov.ie]

Matthew Parkes

We were all deeply shocked to hear the news of Matthew who sadly passed away on 23rd October 2020. The task of paying tribute to him is as monumental as his stature and the impact that he had on the geological community throughout his career.

His last role was as Assistant Keeper for Earth Science at the National Museum of Ireland, where Matthew demonstrated his wide-ranging expertise in Irish palaeontology and geology, collections and displays. He still pursued his other passions, including the promotion of Ireland's geological and mining heritage, through his publications and outreach activities. Matthew was also involved with the ongoing preparations for a significant joint Geological Survey Ireland and National Museum of Ireland exhibition to celebrate the 175th Anniversary of Geological Survey Ireland.

Matthew's interest in geology and the natural world led him to study first at Sheffield University completing a BSc degree and go on to complete his PhD in National University Ireland, Galway, leading to 2 years working on collections at Trinity College Dublin (1990-92). Matthew spent a few years with Cardiff Museum before moving to Geological Survey Ireland for the period 1998-2005. In 2005 Mathew moved to the national Museum of Ireland.

Matthew's reputation as the Go-To-Man for Irish geological heritage was established during his time in the Geological Heritage Programme in Geological Survey Ireland.

Probably one of his greatest legacies is the national programme of County Geological Audits, which Matthew initiated in 2004 with the publication of counties Sligo and Carlow. He continued to have a central role in each County Audit to the present day including the Audit of County Leitrim completed this year and is the author of several follow-up books and exhibitions.

He was also instrumental in securing Ireland's only Geological Monument, the Valentia Tetrapod Trackway in Kerry, through the purchase of the site by the Irish Government.

With a love of quarries, Matthew was always closely associated with industry. Amongst his many publications, the "Geological Heritage Guidelines for the Extractive Industry", was a collaboration between the Irish Concrete Federation and Geological Survey Ireland.

A prolific author of academic and other papers, Matthew's ridiculously long list of offices held, would include:

- Chairman of the Mining Heritage Trust of Ireland;
- Editor of Earth Science Ireland;
- Editorial Board of the RIA's Irish Journal of Earth Sciences;
- Chairman of the Geological Curators' Group;
- Librarian and Expedition Fund Committee member of the Speleological Union of Ireland;
- Irish representative of ProGEO, the European organization for geological conservation;
- Founding member of the Institute of Geologists of Ireland, involved in several working groups, including the Ethics Committee.

Matthew was a long-serving member on the Geological Society's Geoconservation Committee and helped organise the 2018 Annual Gathering in Dublin, bringing speakers from across the island of Ireland. He was also involved with international conferences, most notably 'Natural and Cultural Landscapes - The Geological Foundation", held in Dublin in 2002.

Perhaps Matthew's lasting legacy was going to be the new major Geological Survey Ireland-National Museum exhibition in Collins Barracks; he will live on through its realization.

Matthew had fingers in so many pies (and such a huge network of friends and colleagues), it is impossible to cover them all, but those of you who worked with him, or just talked with him, know that he was passionate, prolific, indefatigable, always good humoured and unfailingly generous with his time and assistance. A kind and gentle, gentleman. And we feel honoured to have been among those people. And he loved cats.

I am sure that you will all join with me in extending our sincerest condolences to Matthew's wife Michelle, and to their families and friends.

EGU2021
virtual sessions

by: **Zbigniew Zwoliński**
[zbzw@amu.edu.pl]

Virtual session on: Visages of geodiversity: time-spatial scales, uncertainty of assessments, promotional activities (GM1.3/OS5/BG2).

Abstract submission deadline is the 13.01.2021, 13:00 CET

Almost 30 years of developing the concept of geodiversity in geosciences provides a robust foundation for moving to the issue of synthesizing the existing knowledge and methods of assessing geodiversity and to disseminate the achievements of this concept.

1. The spatial and temporal scales. On what cartographic scale should the source materials be useful for determining the degree of geodiversity? Can geodiversity be considered on a local, regional, national, continental and global scale? Having in place geodiversity (stationary, at a given time of observation/assessment) and dynamic geodiversity at your disposal - how deep, how far can you reach the past and the future in geodiversity assessments of any area? Can geodiversity be determined in a palaeogeographic/geological context? How can you use geodiversity to describe geosites, geoparks, landscapes, and other forms of geoconservation? How to translate geodiversity values into geoheritage measures?

2. The lack of a standard for geodiversity assessment. Is the quality or quantity (number) of assessed geodiversity features important? How to transform qualitative assessments into quantitative assessments, so that you can easily compare different areas in terms of their substantive value, not to mention independence from the spatial and temporal scale? These issues are related to the problem of uncertainty in geodiversity assessments. This problem affects applied geodiversity studies as well, limiting further qualitative/qualitative assessment of abiotic ecosystem services. So what should be the standards of this geodiversity assessment to minimize errors in assessments?

3. If we find a consensus in establishing a standard for geodiversity assessment, how to apply the developed standard at geoconservation and geoheritage? How to consider such a standard universally acceptable? What forms of activity should best promote the idea of geodiversity? How to implement geodiversity assessments by professionals for different forms of geoconservation and geoheritage? Which ecosystem services should be taken into account in determining the importance of geodiversity for human life? How to make the society aware of the importance of geodiversity in their everyday life? How to extend the geodiversity values to preserve the state of the environment for future generations? How to link the idea of geodiversity with 17 UN SDG? Finally, how should geodiversity values be compared with biodiversity values?

We encourage submissions addressing the challenge of transferring information across scales and findings that are packaged for landscape managers involved in nature-based solutions.

(1) How to submit your abstract

Each session shows the abstract submission link. Using this link, you are asked to log in to the Copernicus Office Meeting Organizer with your Copernicus Office user ID. An abstract processing charge (APC) of €40.00 gross will be levied. Detailed information on how to submit an abstract can be found at: https://www.egu21.eu/abstracts_and_programme/how_to_submit_an_abstract.html

(2) One-abstract rule

Authors are allowed as first author to submit either one regular abstract plus one abstract solicited by a convener, or two solicited abstracts. A second regular abstract can be submitted to sessions led by the Educational and Outreach Sessions (EOS) programme group (maximum number of abstracts, including solicited abstracts, remains two). Possible submissions for first authors are: 1 regular + 1 solicited abstract; or 2 solicited abstracts; or 1 regular or solicited abstract + 1 regular or solicited abstract submitted to EOS-led sessions. Participants can be co-authors on additional abstracts on which they are not first author. Submission of solicited presentations requires a transaction number (TAN) that can be obtained from the convener of the respective session.

(3) Required 2021 EGU membership for first authors

Only 2021 EGU members can submit an abstract as first author to the 2021 General Assembly. Please renew your EGU membership directly through the abstract submission form or beforehand. EGU members get a substantial reduction on the registration fee to the General Assembly.

We are looking forward for your contribution!

The convenors:

Zbigniew Zwoliński, Irene Bollati, Marco Giardino, Alicja Najwer, Franziska Schrodt

Sterlitamak shikhans

scientific significance and arrangement of their protection

by: **Marina Vdovets**
[Marina_Vdovets@vsegei.ru]

Sterlitamak shikhans (local name) are located in the Republic of Bashkortostan in the vicinity of Sterlitamak City on the right bank of the Belaya River. They are four monadnocks (Tratau, Yuraktau, Kushtau, Shakhtau) located in a narrow area, stretching from north to south for 18 km along the right bank of the river. The Mount Shakhtau was developed and there is a huge quarry in its place. The shikhans are dome-shaped and rise more than 200 m above a predominately flat plain (Fig.1).

Figure 1 - General view on the Kushtau Mount

They are part of the largest reef system formed in the Early Permian, extending from the Northern Caspian to the Polar Urals and, possibly, further to Spitsbergen and Western Canada. Deposits are located at different depths, and only in the Republic of Bashkortostan they are exposed on the surface due to Neogene tectonic movements. The deposits are composed of limestone containing numerous reef fossils described in many domestic and foreign publications, including textbooks: calcareous algae (35 species), bryozoans (more than 80 species), brachiopods (more than 150 species), fusulinids (more than 100 species), nautiloids, colonial and solitary corals and many others (Fig.2).

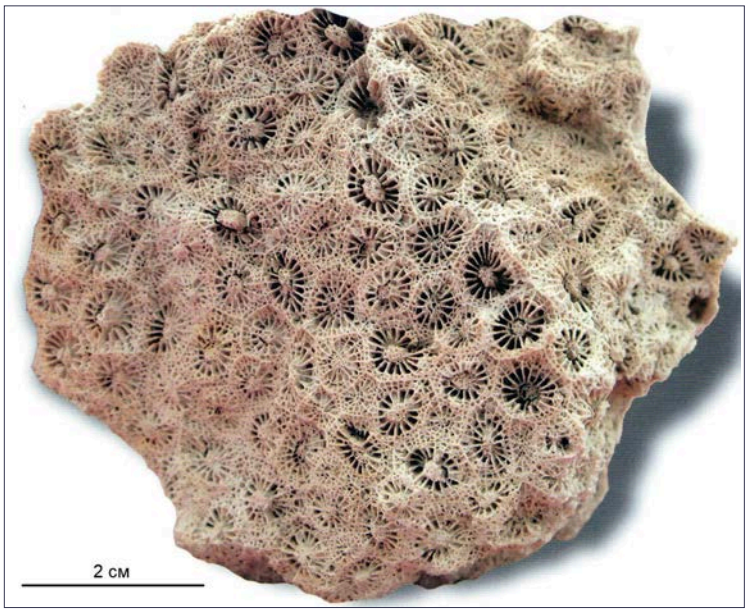


Figure 2 - Colonial rugose

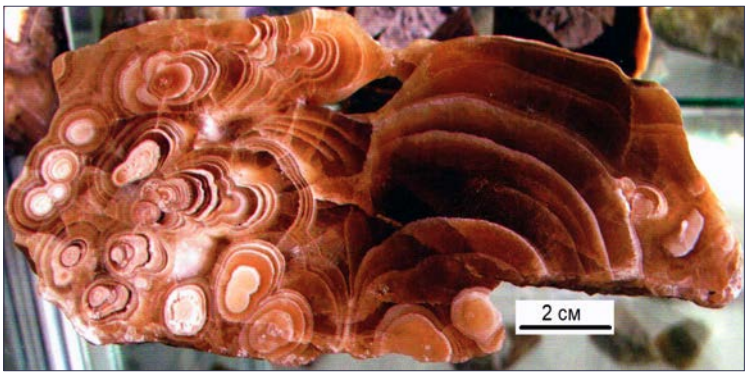


Figure 3 - Marble onyx

The shikhans have been and remain a subject of study by many researchers since 19th century until the present. Sections of the Lower Permian deposits of the shikhans are stratotype for the Shikhan and Sterlitamak horizons of the Asselian and Sakmarian stages. The shikhans have been an object of numerous domestic and international excursions, including field trips of the 17th and 27th IGC and the International Congress "Permian System of the World" (1991).

In addition to the fossil fauna, beautiful samples of minerals such as calcite, aragonite, celestine, rhodochrosite, onyx, etc. have been found there (Fig.3). In 1965, Tratau was assigned the official status of a nature monument of regional significance, and in 1985, this status was also assigned to Yuraktau. However, in 2015 it became known that, despite the official status of a nature monument, geological exploration was planned in the Tratau and Yuraktau aimed at limestone extraction as a raw material for soda production. The arising public protests in Russia were supported by ProGEO, which sent a support letter, signed by the ProGEO President Jose Brilha and a Vice President Marina Vdovets, to the Head of the Republic of Bashkortostan and the Minister of Natural Resources and Environment of the Russian Federation. As a result of joint efforts, high-value geosites were saved. In 2019, a geopark of regional significance, named Toratau was created, and the Juraktau and Tratau shikhans formed part of its territory. Further development of the geopark for its inclusion in the UNESCO Global Geoparks Network is planned.

Regarding Kushtau, the Government of Bashkortostan also decided to develop it for the limestone extraction. The fight for conserving Kushtau had lasted for several months and succeeded as well, and Kushtau was also assigned the status of a nature monument of the regional significance. ProGEO again contributed to this victory. A support letter, signed by the ProGEO President Lars Erikstad and a Vice President Marina Vdovets, was also sent to the officials mentioned above. Information about the ProGEO support and the letter in Russian are available at: https://realnoevremya.ru/news/162960-associaciya-po-zaschite-geonasledi ya-evropy-vystupila-za-sohranenie-kushtau

Shakhtau was completely destroyed due to the limestone mining. However, geologist Ivan Skuin, who worked in the quarry from 1985 to 2013, collected a unique collection of fossils, rocks and minerals, and set up a museum, which later was assigned his name. There are about 3000 exhibit items in the museum and its storehouse. The richest collection is constantly being replenished and studied. The museum is visited by schoolchildren, students and paleontologists from all over the world (Fig.4).

Figure 4- I.A. Skuin with students in the museum

The territory of the shikhans is also characterized by unique biodiversity with a large number of rare species of higher plants in need of protection, listed in the Red Book of the Russian Federation and the Republic of Bashkortostan. In addition, archaeologists consider the shikhans as important archaeological and ethnocultural sites. The aesthetic significance of the shikhans is beyond doubt. One can enjoy the panoramic view to the picturesque landscape of the steppe plain with meandering riverbeds and lakes from the tops of the mountains (Fig.1). However, the shikhans are of the greatest importance in terms of geology. The development of science at every stage requires the ongoing investigation of primary material. In geology, such primary material, in particular, can be found in stratotype and reference sections of various stratigraphic units, characterized by diverse and well-preserved fauna. The shikhans belong to such geosites. In addition, oil and gas deposits are associated with buried reefs; however, the study of these reefs is possible only from drilling data. The exposed reef massifs, the Sterlitamk shikhans, are unique geological and facies models that allow obtaining information about the internal structure and features of buried reef massifs and, in particular, about the nature of reservoir properties of rocks and the influence of tectonic disturbances on oil and gas migration. The shikhans are also a phenomenon under study by specialists in recent reefs as they reflect history of the emergence and development of reef ecosystems.

Bearing in mind the high scientific and aesthetic significance of the shikhans, since 2009, Russian paleontologists have been putting forward a proposal to set up a paleontological park of the Permian. Such a park will be of great importance as a site of natural and cultural heritage of the Republic of Bashkortostan and Russia. It will make it possible to preserve unique geosites and contribute to the education of general population in the field of earth sciences.

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Webinar on geoconservation

Geodiversity and Geoconservation: a new theme for PANORAMA solutions

by: **Enrique Díaz Martínez**
[e.diaz@igme.es]

Introduction

During this last half of 2020, after having several meetings with the coordinators of the PANORAMA partnership of IUCN, we proposed a new theme to be included in this platform in order to host those initiatives related with geoconservation. Now that it has been finally approved and incorporated into their web, we want to give the PANORAMA Solutions initiative some visibility, so we have organized a webinar for Thursday, January 14, 2021, from 16:00 to 17:30 CET. The PANORAMA Solutions initiative is an opportunity for us to show what we are doing in our countries in geoconservation, and also to learn from other experiences.

The announcement

The European Association for the Conservation of Geological Heritage (ProGEO), a member of the International Union for the Conservation of Nature (IUCN), in conjunction with the PANORAMA partnership, are glad to invite you to a live webinar on "Geodiversity and geoconservation: a new theme for PANORAMA solutions", which will take place on Thursday, January 14, 2021, from 16:00 to 17:30 CET.

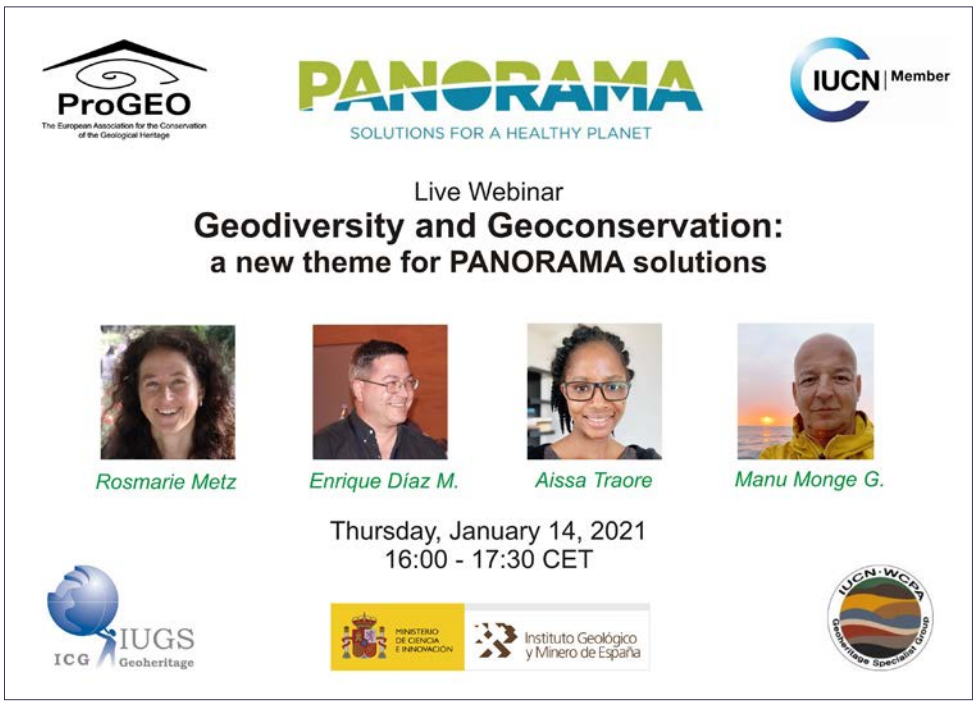
The webinar will include an introduction to geoconservation concepts and initiatives, explaining how the management of geoheritage and geodiversity contributes to the conservation of natural heritage and natural diversity. We will also talk about the PANORAMA initiative and web platform, which allows conservation practitioners to share and reflect on their experiences, increase recognition for successful work, and to learn with peers how similar challenges have been addressed around the globe. Participants will learn about the benefits of contributing nature-based solution case studies to PANORAMA, and will receive guidance on developing and submitting a case study.

The webinar platform is provided by the Geological Survey of Spain (IGME), and organized thanks to its Geoheritage Unit, which works to enhance and promote geoheritage knowledge and management in Spain and globally.

Who will be speaking?

Rosmarie METZ, landscape ecologist by profession, is working since more than 20 years in international cooperation. She was responsible for the implementation of international cooperation projects in Argentina, Bolivia, Paraguay, Vietnam, Bosnia and Hercegovina and Serbia in areas like biodiversity conservation and protected area management, rural development, sustainable management of natural resources, climate change. Currently she is working as Senior Advisor in the Division of Climate Change, Rural Development and Infrastructure of the Deutsche Gesellschaft für Internationale Zusammenarbeit, GIZ GmbH, in Germany. Since 3 years she is also acting as GIZ partnership coordinator for the PANORAMA partnership.

Enrique DÍAZ-MARTÍNEZ is a geologist (BSc and PhD in geology, MSc in Management of Protected Areas) working on geoconservation projects for more than 25 years, including inventories, legislation, management and public outreach. He has been a researcher with the French Institut de Recherche pour le Développement (former ORSTOM), consultant for the Bolivian Geological Survey, researcher with the Spanish National Research Council (CSIC), and is currently a researcher with the Geological Survey of Spain (IGME). He is a founding member and deputy chair of the Geoheritage Specialist Group of IUCN's World Commission on Protected Areas (WCPA), and is the executive secretary of the European Association for the Conservation of Geological Heritage (ProGEO).



Aissa TRAORE holds a Master degree in Communication and worked with civil society organizations, governments and agencies particularly in Africa and Europe. She worked on the field for the UN High Commissioner for Refugees where she was part of the Protection Cluster coordination. She served as a programme management consultant for the Francophonie and the African Union election observation missions. She has also worked for the European Parliament in Brussels and the Permanent Mission of Mali to the United Nations in Geneva. She is working now as Programme Officer, part of the PANORAMA partnership initiative coordination, under the Global Protected Areas Programme, based at the IUCN headquarters in Gland, Switzerland.

Manu MONGE GANUZAS is a geologist (PhD in geology from the University of the Basque Country, UPV-EHU) and works as a technical specialist for the Environmental Agency of the Basque Country, focusing in the management and conservation of the Urdaibai Biosphere Reserve (UNESCO MaB Programme). He is the current president for the Commission on Geological Heritage of the Geological Society of Spain, an active member of the European Association for the Conservation of Geological Heritage (ProGEO) and currently national representative of Spain in this international organization, and also a member of the Geoheritage Specialist Group of the World Commission on Protected Areas (IUCN).

IMPORTANT: Please, go to this link to confirm your participation by filling in the form, so we can share the webinar link with you!

https://forms.gle/ogdogq41HBGNuEDt9

ProGEO news

ISSN

by: **ProGEO**

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The ProGEO news is now with a specific International Standard Serial Number (ISSN). Since November 2020 the ProGEO news issues are identified with ISSN 2184-8300.

Deadline next issue of ProGEO NEWS

February 12th, 2021

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!

february 12

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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.

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