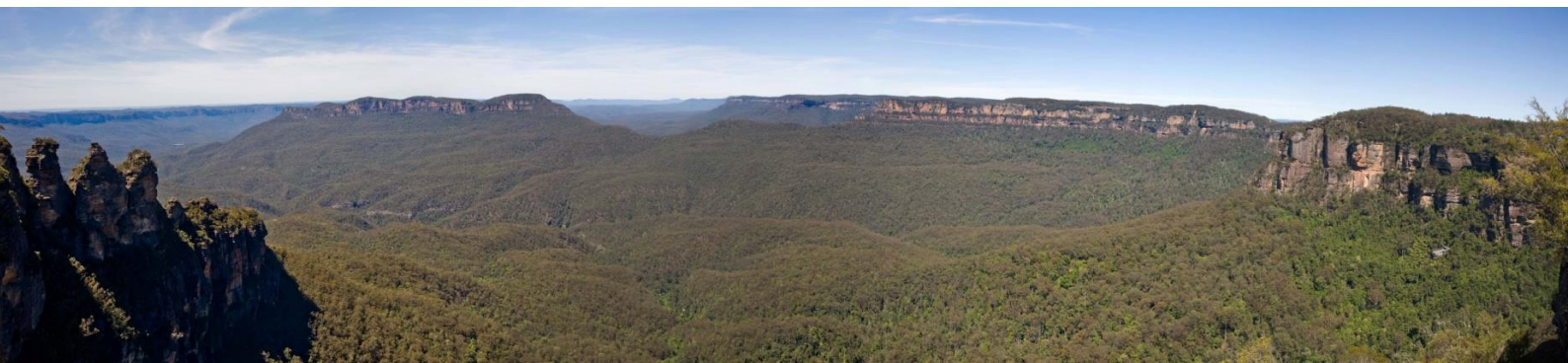


# GEOHERITAGE Newsletter



No. 1, April 2015



Blue Mountains, New South Wales: panorama from Echo Point. During the World Parks Congress in Sydney, Australia, November 2015, members of the GSG visited the Blue Mountains World Heritage Site, inscribed by UNESCO for its biodiversity. However, it is also an area of great geoheritage significance and provides an excellent case study of the links between geology, geomorphology, soils, habitats, and biodiversity. (Photo: © John Gordon).

Welcome to the first Newsletter of the IUCN-WCPA Geoheritage Specialist Group (GSG). The group was formed in 2014 to provide specialist advice and guidance on all aspects of geodiversity and geoheritage in relation to the establishment and management of protected areas, to help integrate geodiversity into IUCN's programmes, and to promote better awareness of the links between geodiversity and biodiversity and their applications in protected area management.

The role of the Geoheritage Newsletter is twofold: first, to keep members of the GSG and others in touch with the activities of the Group and forthcoming events, to report on newsworthy items and current developments in geoconservation that are relevant to protected areas, and to promote the values of geoheritage; and second, to communicate with the wider protected areas community (policy makers, managers and staff, biodiversity specialists and advisors) about the work of the GSG and how geoconservation can be better integrated into protected area design, management and monitoring to deliver benefits for the whole of nature.

This first issue explains the aims and purpose of the GSG and how you can join the GSG network. It also highlights the value of geoconservation in protected areas, and outlines recent and future activities of the GSG.

Contributions to further issues are welcome, including short articles, news items, best-practice case studies and details of recent publications related to geoconservation in protected areas.

**John Gordon**  
Editor

## Introduction to the GSG: background, purpose and future work plans

### Kyung Sik Woo, Chair of the GSG

Geoheritage is a non-renewable heritage which can provide significant information on the history of the Earth and ongoing-related processes. The story of the Earth, our geoheritage, is preserved in its geodiversity. Put simply, geodiversity is the variety of rocks, minerals, fossils, landforms, sediments, water and soils, together with the natural processes which form and alter them. Plate movements, volcanic activity, ice ages, mountain building, environmental changes and the evolution of life are all recorded in varying detail in rocks, landforms, sediments, fossils and soils and enable us to understand the evolution of our dynamic planet. Geoheritage is a vital link between people, nature, landscapes and cultural heritage. It supports sustainable management of land and water, climate change adaptation, historical and cultural heritage, economic development and people's health and well-being through providing assets for outdoor recreation, (geo)tourism and enjoyment of the natural world. Geodiversity also provides the foundation for life on Earth and the diversity of species, habitats, ecosystems and landscapes. Without an understanding of geodiversity, management of protected areas will not be as effective as it should be. Thus, conservation of geodiversity is necessary both for its own particular geoheritage values and for its wider ecosystem values as well. This requires better integration of geodiversity and geoheritage into the management of protected areas.



Seongsan Ilchulbong, Korea: a spectacular tuff cone formed by hydrovolcanic activity on a shallow seabed about 5,000 years ago. It forms part of Jeju Volcanic Island and Lava Tubes Natural World Heritage Site and Jeju Island Global Geopark. It also supports a number of rare plant species and is an important tourist attraction (Photo: © John Gordon).

The Geoheritage Specialist Group (GSG) was set up in 2013 in IUCN WCPA, following the adoption of IUCN Resolutions WCC-2008-Res-040 (Barcelona, 2008) and WCC-2012-Res-048 (Jeju, 2012). Both clearly state that geodiversity is part of natural diversity and geoheritage is part of natural heritage, and call for actions on valuing and conserving geoheritage. These roles recognise the concept of 'geo' as an integral part of 'nature' in IUCN's 2008 definition of a protected area and the clear links between geodiversity and biodiversity in the conservation of nature. The main purpose of the GSG is to provide specialist advice and guidance on all aspects of geodiversity and geoheritage in relation to the establishment and management of protected areas, to help

integrate geodiversity into IUCN's programmes and to promote the links between geodiversity and biodiversity.

Therefore, the role of the GSG is to facilitate geoconservation and specifically to: 1) provide advice and guidance for all aspects of geodiversity as it relates to the establishment and effective management of protected areas; 2) provide specific advice on the conservation and effective management of geoheritage in protected areas and to prepare guidance material as

appropriate; 3) identify significant geoh heritage areas that could be formally reserved as protected areas by nations; 4) provide specialist geoh heritage technical advice for the assessment of World Heritage Site and Global Geopark nominations; 5) provide a mechanism for integrating geodiversity into all relevant IUCN programmes and activities; 6) provide, as appropriate, a professional interface for IUCN between geodiversity and geoh heritage stakeholders such as UNESCO, the mining industry and others.

We established a steering committee comprising geoh heritage experts with a variety of geoh heritage backgrounds. We hope to invite voluntary individual experts from various fields such as world heritage, geopark, geodiversity, geoconservation, geoeducation, geotourism, geoh heritage management, etc. We will organize several voluntary task force teams to carry out our work plans: 1) to prepare a Best Practice Guideline for Protected Area Geodiversity Management; 2) to prepare a Geoh heritage Guidance Statement for IUCN World Heritage Criterion (viii); 3) to develop Background Geoh heritage Guidance Material for Protected Areas; and 5) to address issues and initiatives identified by Resolution WCC-2012-Res-048 (Jeju, 2012): *Valuing and Conserving Geoh heritage Within the IUCN Programme 2013-2016*. Through the GSG, we hope to devote our effort to contribute to the effective conservation, proper management and sustainable development of geoh heritages for future generations.

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## **Recent activities of the Geoh heritage Specialist Group**

### **Wesley Hill, Secretary General of the GSG**

September 2013. Meeting held at the Geoh heritage International Workshop, Mokpo, Korea, to develop a formal proposal and terms of reference for the Geoh heritage Specialist Group (GSG) and a programme of work.

January 2014. Formal approval granted for the establishment of the GSG within the WCPA.

February 2014. A chapter on 'Geoconservation in protected areas' was submitted by Roger Crofts and John Gordon for the IUCN Protected Area Governance and Management e-book (edited by Graeme Worboys), due to be published in February 2015.

February 2014. A letter of support for the Global Geoparks Network from the GSG was sent to the Chair of the Global Geoparks Working Group.

August 2014. Comments on the importance of recognising the links between geodiversity and biodiversity were submitted to the IUCN Science and Knowledge Unit in relation to the work programme of the Intergovernmental Science-policy Platform on Biodiversity and Ecosystem Services (IPBES).

October 2014. A desktop review for World Heritage Site nominations was carried out for IUCN.

November 2014. At the World Parks Congress in Sydney, members of the GSG contributed to two Pavilion sessions and a Stream 1 session organised by Enrique Díaz-Martínez, Margaret Brocx and Vic Semeniuk. The GSG, in partnership with ProGEO and the Geological Society of Australia, also mounted an a Geoh heritage exhibition stand.

January 2015. Preparations and organizing committee confirmed for the 1<sup>st</sup> International Conference on Geoh heritage, 4 – 7 June 2015, Huanjiang Hotel, Huanjiang County, Guangxi,

China.

The GSG 2014 Annual Report of activities will be posted to the [GSG website](#) soon.

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## **How to join the GSG as an individual member**

### **Wesley Hill**

Membership of the Group is open to all interested individuals and organisations through active participation in the work of the Group. Please join if you can do one or more of the following:

- (1) Actively contribute to the work of the GSG;
- (2) Provide useful material and case studies of geoheritage conservation in practice;
- (3) Contribute knowledge of the theory and practice of geoheritage conservation within a specialized field;
- (4) Notify the GSG Steering Committee about available funding sources and partnership opportunities to progress geoheritage conservation in protected areas.

Please note that you do not have to be a member of the IUCN WCPA to join. The time commitment involved as a member will be on an individual basis when a 'call to participate' is sent to members, and if you can contribute to various actions and projects sent out through the GSG Newsletter.

To join the GSG, please send an email to [Wesley Hill](#) including your full contact details (address, email, country, and your geoheritage interest) and what organization you are representing.

Wesley Hill  
Secretary General, Geoheritage Specialist Group  
[wesleymhill@gmail.com](mailto:wesleymhill@gmail.com)

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## **Geoconservation in protected areas - why it matters**

### **Roger Crofts & John Gordon**

There is a popular view that rocks and landforms are reasonably robust and not liable to change or damage by human activities and therefore do not need special measures for their conservation. But this is not the case. There are five basic reasons for the conservation of geoheritage and geodiversity.

Conserving nature because of its intrinsic value is vitally important. Too often in the recent past the focus has been exclusively on the usefulness of diversity to society. Now is the time to recognise that there is ample justification for protecting our geoheritage just because it is there.

Protecting geoheritage as a scientific and educational resource is the second reason. There are many sites that have proved to be formative in our knowledge of the evolution of the Earth. For example Hutton's unconformity at Siccar Point, Berwickshire, Scotland demonstrates the vast gaps of time between different rock layers and the Burgess Shale in British Columbia, Canada, provides exceptional insights into the evolution of complex life forms on Earth over 500 million years ago. And we need to ensure that we retain opportunities for future generations to apply new ideas and seek new evidence.



James Hutton's classic section at Siccar Point, Berwickshire, Scotland, showing the unconformity between steeply dipping Silurian strata and overlying Devonian (Old Red Sandstone) rocks. (Photo: © John Gordon).

A third reason is its important cultural heritage role. For example, depiction of mountains on national flags, caves with early paintings of life and value for aesthetic reasons and for recreation and tourism activities.



Galapagos National Park and World Heritage Site, Ecuador: modern geological processes provide a basis for biodiversity abundance. (Photo: ©Roger Crofts).

Geodiversity has equal justification with biodiversity for being a key element in protected areas as an integral part of nature and natural heritage: the fourth reason. It is a vital component of ecosystems. The substrate of

rocks and soils provides the rooting zone and much of the nutrient supply for plant growth and survival. Equally important are the dynamic processes (e.g. soil formation, biogeochemical and water cycling, stream flows, erosion and sedimentation) that provide nutrients and maintain habitat condition and ecosystem health. This biotic-abiotic relationship can also be described in a different way. The recently coined term "conserving the stage" is based on flora and fauna being the actors and geodiversity as the stage on which they thrive. In this approach, the conservation of biodiversity is seen as best achieved by conserving the stage.

And, finally, geodiversity provides many environmental goods and ecosystem services. This provision means that working with nature, rather than against it, and seeking to maintain the natural systems and processes is a fundamental role of protected area management.

## **Geoheritage at the World Parks Congress, Sydney, Australia**

**Enrique Díaz-Martínez, John Gordon & Margaret Brocx**

At the IUCN 6th World Parks Congress in Sydney, Australia, in November 2014, the GSG, with support from ProGEO, the Geological Society of Australia (GSA), the Geological Survey of Spain (IGME) and the Wetlands Research Association (WRA), contributed to sessions on geoconservation arranged by Enrique Díaz-Martínez, Margaret Brocx and Vic Semeniuk. An associated Geoheritage exhibition stand included posters on the links between geodiversity and biodiversity by John Gordon & Roger Crofts and Vic Semeniuk & Margaret Brocx.

The Congress is a decadal event organized by the WCPA and for the first time included geoheritage and geodiversity in the programme. It was an important opportunity to promote geoheritage and geoconservation, as well as the role of the GSG and partner organisations, among the wider IUCN community of protected area managers, scientists and staff.

During the Congress, members of the GSG highlighted the wider values and importance of geoconservation for nature conservation and the benefits for society in a series of presentations and posters and at the exhibition stand. The main messages that emerged include: the relevance of all IUCN protected area categories for protecting geoheritage interests, the wider values of geoheritage (for scientific, educational, cultural/aesthetic, ecological and ecosystem service reasons), the relevance of geoconservation principles for sustainable management of natural systems, and the importance of understanding the functional links between geodiversity and biodiversity to maintain ecosystem health as part of an integrated approach that recognises the value of 'conserving nature's stage'. Many of these issues were discussed and illustrated during the course of a field trip to the National Park and World Heritage area of the Blue Mountains, west of Sydney. With funding support from the Korean World Heritage Tidal Flat Promotion Group and VCSRG PL, the excursion, organised by Vic Semeniuk (WRA) and facilitated by members from the GSA and WRA, was specifically designed for the GSG to illustrate the geodiversity of the region and the relationships of geodiversity to biodiversity.

In sum, we hope to have contributed to the better recognition within IUCN of geoheritage as an integral part of natural heritage, and for it to be more formally included in protected area management globally.

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## **Publication of the IUCN Protected Area Governance and Management e-book chapter on geoconservation**

**Roger Crofts & John Gordon**

2015 sees the publication of the 1000 page IUCN handbook, as a pdf, on protected area management and governance: a practical guide to all protected area staff and others engaged in protected areas. One chapter is devoted to geoheritage conservation written by Roger Crofts and John Gordon with the help of many colleagues. In 20,000 words the chapter provides a brief guide to principles and practices of geoconservation in protected areas, and includes an extensive reference list plus recommended reading. The contents are organised as follows: general introduction, definitions of terms; explanation on the need for geoconservation, especially values, threats encountered, links to biodiversity and ecosystem functions and services; approaches to identifying geoconservation interests; types of geoconservation designations internationally, nationally and locally; general principles of geoconservation, especially guiding principles, site planning guidelines; core and buffer zones and larger scale areas; managing different types of sites and areas; approach to risk management; dealing with threats; education and interpretation of sites; monitoring and evaluation procedures; and expertise required.

Crofts, R. and Gordon, J.E. (2015). Geoconservation in protected areas. In: G.L. Worboys, M. Lockwood, A. Kothari, S. Feary and I. Pulsford (eds) *Protected Area Governance and Management*. ANU Press, Canberra, pp. 531-568. Available at <http://press.anu.edu.au/titles/protected-area-governance-and-management/>

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## **Geoconservation Best Practice Guideline - appeal for case studies**

### **Roger Crofts**

The Geoheritage Specialist Group is preparing to compile a best practice guideline on geoconservation in protected areas. We are particularly looking for geoconservation case studies from anywhere in the world, but especially from outside the UK. If you have examples of new ways of conserving a site, new ideas about interpretation, new ways of engaging the public or anything else which you think might be of interest to colleagues around the world, please let us know.

Please contact Roger Crofts ([roger.dodin@btinternet.com](mailto:roger.dodin@btinternet.com)) with ideas and suggestions and for any advice on what you can offer.

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## **Announcement of the First International Conference on Geoheritage 4-7 June 2015, Huanjiang, Guangxi, China**

### **Kyung Sik Woo**

The **1st International Conference on Geoheritage**, organized by the IUCN WCPA Geoheritage Specialist Group, will be held in China in June 2015. This is the first international conference on geoheritage protection, management and sustainable development in protected areas such as world heritage sites, geoparks and other protected areas. The goal of the conference

is to promote understanding of geoh heritage protection activities in the future and to strengthen geoh heritage-related activities within IUCN WCPA.

South China Karst (SCK) is a serial World Natural Heritage Site nominated and submitted by the Chinese Government to the World Heritage Committee, UNESCO. The Phase I property, inscribed on the World Heritage List at the 31st session of the World Heritage Committee, comprises three internationally acclaimed areas: Shilin Karst in Yunnan, Libo Karst in Guizhou and Wulong Karst in Chongqing. The additionally nominated sites for Phase II include specifically selected areas comprising Guilin Karst in Guangxi, Shibing Karst in Guizhou, Jinfoshan Karst in Chongqing, and Huanjiang Karst in Guangxi, all of which were inscribed in 2014. Fantastic natural conditions of humid subtropical karst together with rich biodiversity make the Huanjiang Karst so vital and active that it has been considered to possess outstanding universal values from both scientific (geological / geomorphic) and aesthetic points of view. The Huanjiang site is a direct extension of the Libo Karst Property of the SCK Phase I, and displays various types of numerous cone karst (Fengsong and Fenglin) shown by its pristine condition and valued as one of the outstanding representative SCK sites. Contrary to serious rock desertification in other karst parts in China, the geoh heritage values of the Huanjiang Karst become more obvious and its management for proper protection becomes necessary and required. Traditional relationship with minority people is an important part of Huanjiang, and the relationship between natural karst and the culture and tradition of minority people have gained growing recognition and respect among local communities. It is believed that the Huanjiang Karst not only belongs to Guangxi and to China, but also to the world. We believe that our responsibility to conserve, educate and utilize this wonderful geoh heritage site as well as other geoh heritage sites in other protected areas in the world will be thoroughly communicated by this First International Conference on Geoh heritage. Geoh heritage experts from all over the world will be welcomed and will share the beautiful karst landscape.

**Dates:** 4 - 7 June 2015

**Venue:** Huanjiang Hotel, Huanjiang County, Guangxi, China

**Hosted by:** IUCN WCPA Geoh heritage Specialist Group and State Engineering Technology Institute for Karst Desertification Control

**Organizers:** World Natural Heritage Management Bureau of Huanjiang Maonan Autonomous County and the Geographical Society of Guizhou Province

**To Download Conference Circular:**

[http://www.iucn.org/about/work/programmes/gpap\\_home/gpap\\_biodiversity/gpap\\_wcpa\\_biodiv/gpap\\_geoh heritage/](http://www.iucn.org/about/work/programmes/gpap_home/gpap_biodiversity/gpap_wcpa_biodiv/gpap_geoh heritage/)

**For registration and conference information:** contact Dr. Ying Bin [fighterbin@126.com](mailto:fighterbin@126.com)

Five main **topics** will be presented and discussed:

1. Geology and geomorphology of geoh heritage sites;
2. Protection, management, geotourism and sustainable development of geoh heritage sites including regional activities in the world;



3. Geology, geomorphology, protection and management of South China Karst World Natural Heritage Sites;
4. Protection and management of caves and karst in the world;
5. The environment, desertification and rehabilitation of the Huanjiang Karst.

**Tentative programme:**

June 3: arrival and registration at Huanjiang Hotel  
June 4 and 5: opening ceremony and the main presentations  
June 5 (afternoon): GSG Steering Committee meeting  
June 6: one day field trip to the Huanjiang Karst Site (WH site)  
June 6 (evening): closing ceremony and final banquet  
June 7: Guilin karst site along Lijiang River (WH site)  
June 8: Departure

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**Other forthcoming meetings of interest**

- The European Geosciences Union (EGU) General Assembly, Vienna, 12-17 April 2015, includes a session on 'Geoheritage, Geodiversity and Landscapes: a key issue for present and future studies' (SSS9.11/EOS10/GM4.4)  
For further details, see <<http://www.egu2015.eu/>>
- The IUCN WCPA “Little Sydney”: Protecting Nature in Europe conference, 28-31 May 2015, in Hainburg/Donau - Auen National Park, Austria, includes a workshop on Geoheritage. The aim of the conference is to present and discuss original approaches for conservation and development arising from the World Parks Congress 2014 and facilitate the achievement of the Promise of Sydney in the European context.  
For further details, see  
<[http://www.iucn.org/about/union/secretariat/offices/europe/little\\_sydney\\_conference/](http://www.iucn.org/about/union/secretariat/offices/europe/little_sydney_conference/)>
- XI National Meeting of the Spanish Geoheritage Commission, Zumaia, Basque Country 9 – 13 June 2015.  
For further details, see <<http://www.geoparkea.com/zumaia2015>>
- The 13th European Geoparks Conference will be held in Rokua Geopark, Finland, 3-6 September, 2015.  
For further details, see <<http://www.egnconference2015.com/>>
- The VIII International Symposium of ProGEO will be held in Reykjavík, Iceland, 8–12 September, 2015, on 'Geoconservation strategies in a changing world'.

For further details, see <<http://www.progeo.se/>>

- The 4th Asia-Pacific Geoparks Network Symposium will be held in the San'in Kaigan Global Geopark, Japan, 16 – 20 September 2015, on 'Geoparks: Networking and Society'.

For further details, see <<http://asiapacificgeoparks.org/?p=565/>>

- Geo inv 2015 Toulouse. International Congress on Geoheritage Inventories: Challenges, Achievements and Perspectives, Muséum de Toulouse, France, 22 - 26 September 2015.

For further details, see <<http://www.geosoc.fr/manifestation/agenda-des-reunions-colloques-sgf/event/191-les-inventaires-du-patrimoine-geologique-enjeux-bilans-et.html>>

- The 35th International Geological Congress, Cape Town, South Africa, 27 August - 4 September 2016, includes Geoheritage as a key focus area.

For further information, see <<http://www.35igc.org/Verso/164/GeoHeritage>>

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## Recent publications

The latest issue of Earth Heritage Magazine, which publishes news and popular articles on geoconservation, is available online: <[www.earthheritage.org.uk](http://www.earthheritage.org.uk)>

Following the publication of Scotland's Geodiversity Charter in 2012 by the Scottish Geodiversity Forum (<<http://scottishgeodiversityforum.org/charter/>>), the English Geodiversity Forum published in 2014 a similar Geodiversity Charter for England (<<http://www.englishgeodiversityforum.org/Downloads/Geodiversity%20Charter%20for%20England.pdf>>).

The following article outlines the importance of IUCN recognition of the case for geoheritage conservation in protected areas, both in its own right and for its wider value in supporting biodiversity and ecosystem services. It summarises some of the key issues and guiding principles to ensure that geoconservation is adequately reflected in protected area development and management across all six IUCN Management Categories.

Crofts, R. & Gordon, J.E. (2014). Geoconservation in protected areas. *Parks*, vol. 20, no. 2, 61-76. <<http://parksjournal.com/parks-20-2/>>

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## Useful Links

### IUCN-WCPA Geoheritage Specialist Group:

[http://www.iucn.org/about/work/programmes/gpap\\_home/gpap\\_biodiversity/gpap\\_wcpa\\_biodiv/gpap\\_geoheritage/](http://www.iucn.org/about/work/programmes/gpap_home/gpap_biodiversity/gpap_wcpa_biodiv/gpap_geoheritage/)

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

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

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

**UNESCO Earth Sciences:** <http://www.unesco.org/new/en/natural-sciences/environment/earth-sciences/global-geoparks/>

**ProGEO (The European Association for the Conservation of the Geological Heritage):**  
<http://www.progeo.se/>

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### **IUCN WCPA Geoheritage Specialist Group**

The GSG provides specialist advice and guidance on all aspects of geodiversity and geoheritage in relation to the establishment and management of protected areas, to help integrate geodiversity into IUCN's programmes and to promote the links between geodiversity and biodiversity.

Further information about the GSG is available on its website:

<[http://www.iucn.org/about/work/programmes/gpap\\_home/gpap\\_biodiversity/gpap\\_wcp\\_abiodiv/gpap\\_geoheritage/](http://www.iucn.org/about/work/programmes/gpap_home/gpap_biodiversity/gpap_wcp_abiodiv/gpap_geoheritage/)>.

GSG Chair: Professor Kyung Sik Woo ([wooks@kangwon.ac.kr](mailto:wooks@kangwon.ac.kr))

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

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