

The Global Geoheritage Movement, The Big Picture of Conservation

A desert landscape featuring large, rounded rock formations in the foreground and a pyramid in the background. The scene is set in a vast, open desert under a clear blue sky. The rock formations are scattered across the sandy ground, some standing upright and others lying flat. The pyramid is a prominent feature in the distance, with a smaller structure on top. The overall atmosphere is one of a remote and ancient site.

Tim Badman, IUCN

America's Geological Heritage. Denver, 19 March 2013

IUCN



- (1) **Secretariat** – 1,000 staff in 62 offices. HQ in Switzerland
- (2) **Members** – more than 1,000 Government and NGO Members (agencies or organizations) in more than 160 countries. Membership provides a “neutral forum” for addressing environmental issues
- (3) **Commissions** – 10,000 of the world’s leading experts organised in 6 Commissions. These cover fields such as protected areas, environmental law and species conservation. They deliver key products such as the Red List of Threatened Species and the IUCN Protected Area Categories.

Resolutions and Recommendations

World Conservation Congress, Barcelona, 5–14 October 2008



4.040 Conservation of geodiversity and geological heritage

NOTING that the United Nations General Assembly proclaimed 2008 to be the International Year of Planet Earth, initiated jointly by the International Union of Geological Sciences (IUGS) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) in order to increase awareness of the importance of Earth sciences in achieving sustainable development and promoting local, national, regional and international action;

AWARE of the rapidly growing interest and commitment of States, NGOs, and communities to save, study and sustainably use their geodiversity and geological heritage;

RECALLING that geodiversity, understood to include geological and geomorphological diversity, is an important natural factor underpinning biological, cultural and landscape diversity, as well as an important parameter to





WCC-2012-Res-048-EN

Valuing and conserving geoheritage within the *IUCN Programme 2013–2016*

- AWARE of the increasing interest and greater commitment of the States, non-governmental organizations (NGOs) and communities with respect to the preservation, value assessment, study and sustainable use of geodiversity (geological diversity) and geoheritage (geological heritage);
- RECALLING that geodiversity is an important natural factor that conditions and underpins biological, cultural and landscape diversity, and is also an important parameter to be considered in the conservation, assessment and management of protected areas;
- RECALLING ALSO that geoheritage is a constituent and inseparable element of the natural heritage, and that it possesses cultural, aesthetic, landscape, economic and intrinsic values that must be preserved and transmitted to future generations; etc.

Earth Heritage at the global level



World Heritage

Global
Geoparks

Earth Heritage
Conservation
in Protected
Areas

Earth Heritage at the global level



World Heritage

Global
Geoparks

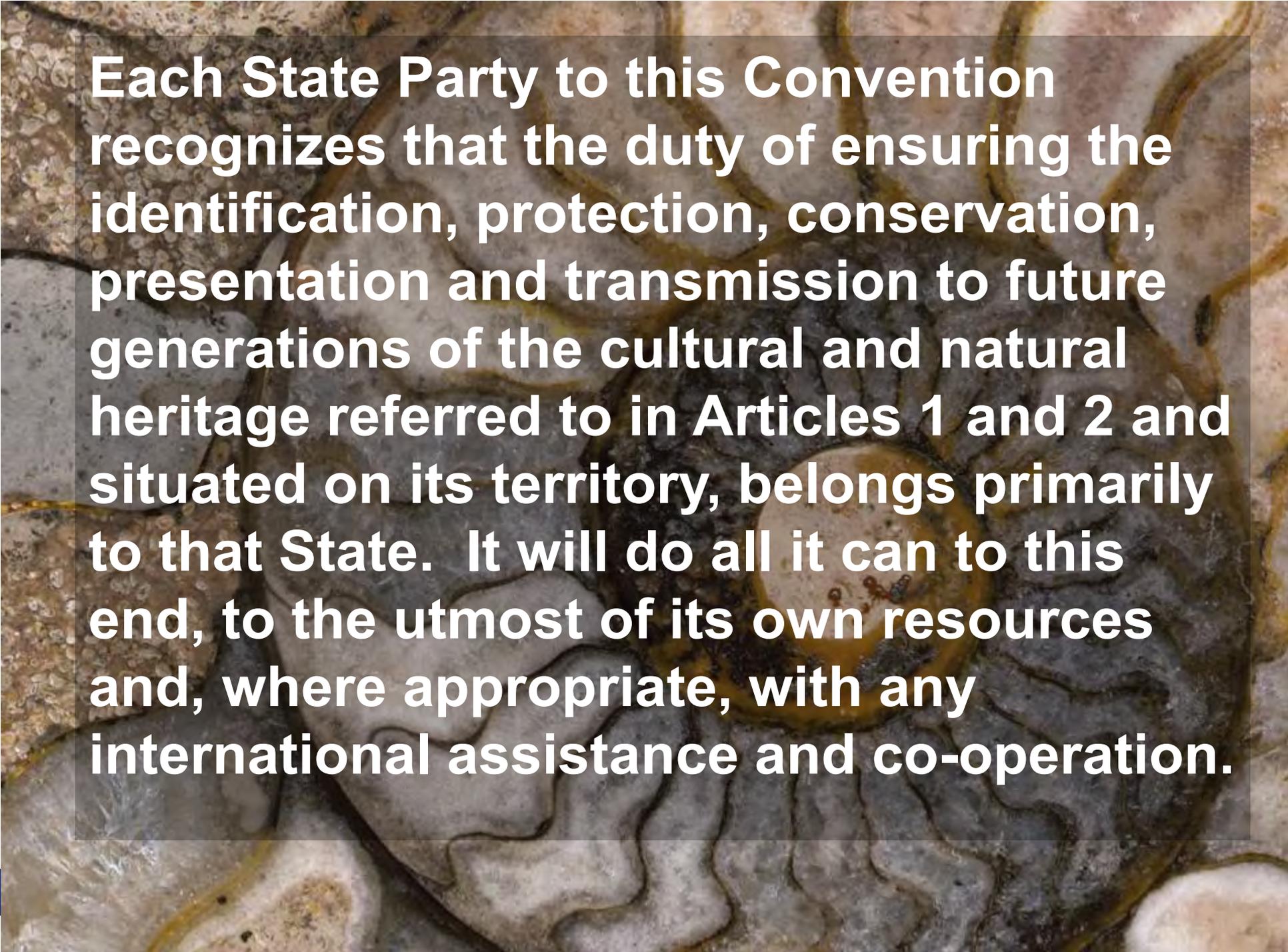
Earth Heritage
Conservation
in Protected
Areas

Outstanding Universal Value



- *Cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity.*



The background of the slide is a piece of marbled paper with a complex, organic pattern of swirling colors including shades of grey, brown, tan, and black. The pattern resembles natural stone or biological cells.

Each State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international assistance and co-operation.

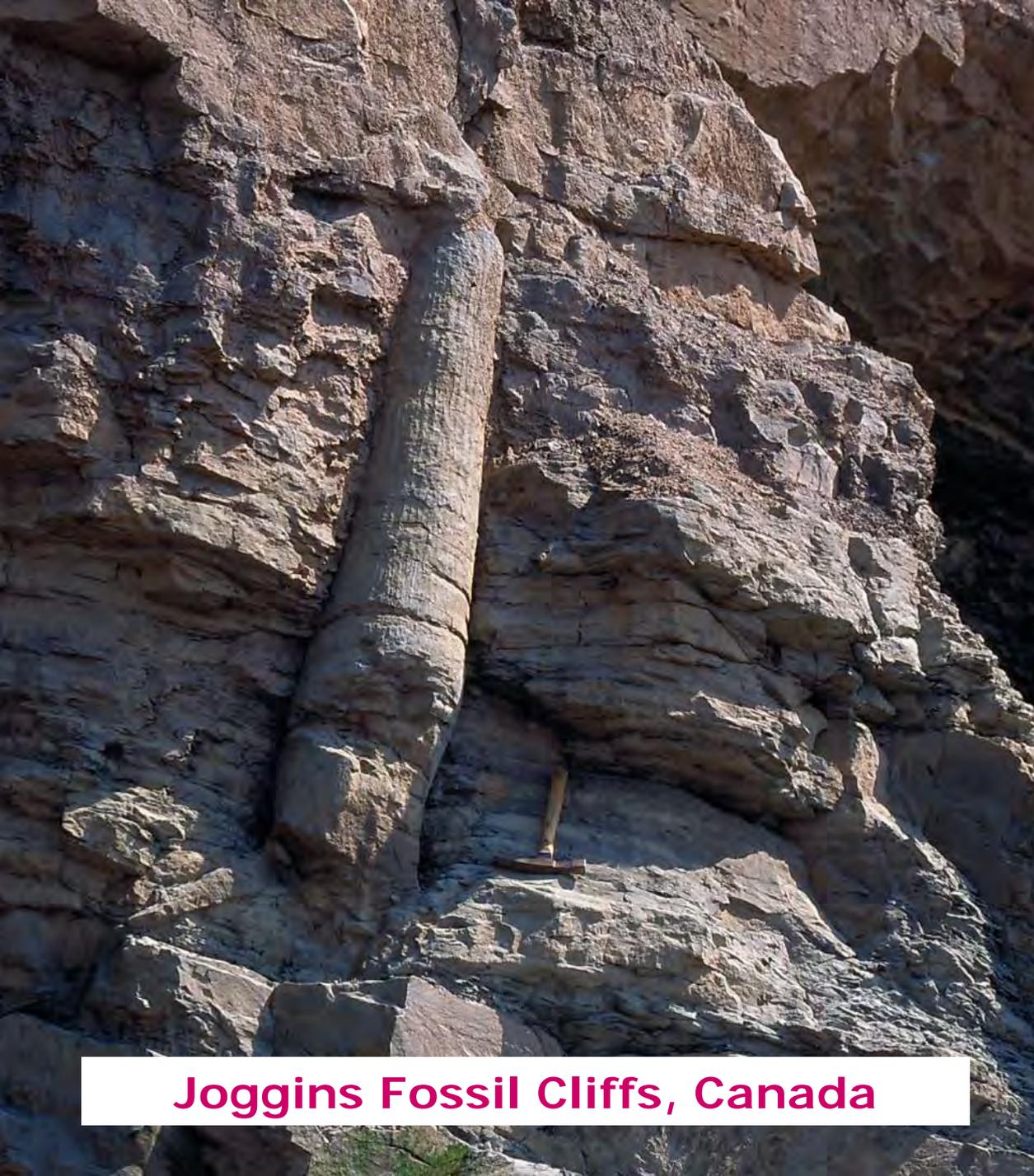


The World Heritage Convention is one of the most important global conservation instruments.

**217 natural sites
c.10% of protected areas globally**



Mount Kilimanjaro (Tanzania)



Joggins Fossil Cliffs, Canada





Sagarmatha National Park, Nepal



Kamchatka, Russian Federation



South China Karst, China



Iulissat Icefjord, Greenland, Denmark



**Central Amazon Conservation
Complex, Brazil**



Malpelo, Colombia



Socotra, Yemen



New Caledonia, France



Sichuan Giant Panda Sanctuaries, China

Selous Game Reserve, Tanzania





Cape Floral Region, South Africa



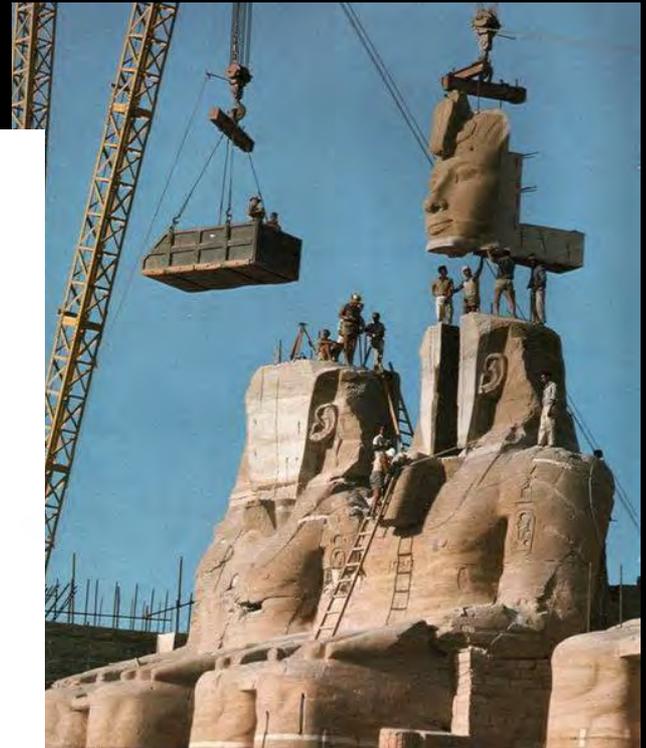
UNITED NATIONS EDUCATIONAL, SCIENTIFIC
AND CULTURAL ORGANISATION

CONVENTION CONCERNING THE
PROTECTION OF THE WORLD CULTURAL
AND NATURAL HERITAGE

Adopted by the General Conference at its seventeenth session
Paris, 16 november 1972



English Text



The first five signatory countries?

- 1) *USA ('73)*
- 2) *Egypt ('74)*
- 3) *Iraq ('74)*
- 4) *Bulgaria ('74)*
- 5) *Sudan ('74)*

Also ratified later in 1974: Algeria, Australia, Democratic Republic of the Congo, Nigeria, Niger

The first five listed natural sites?

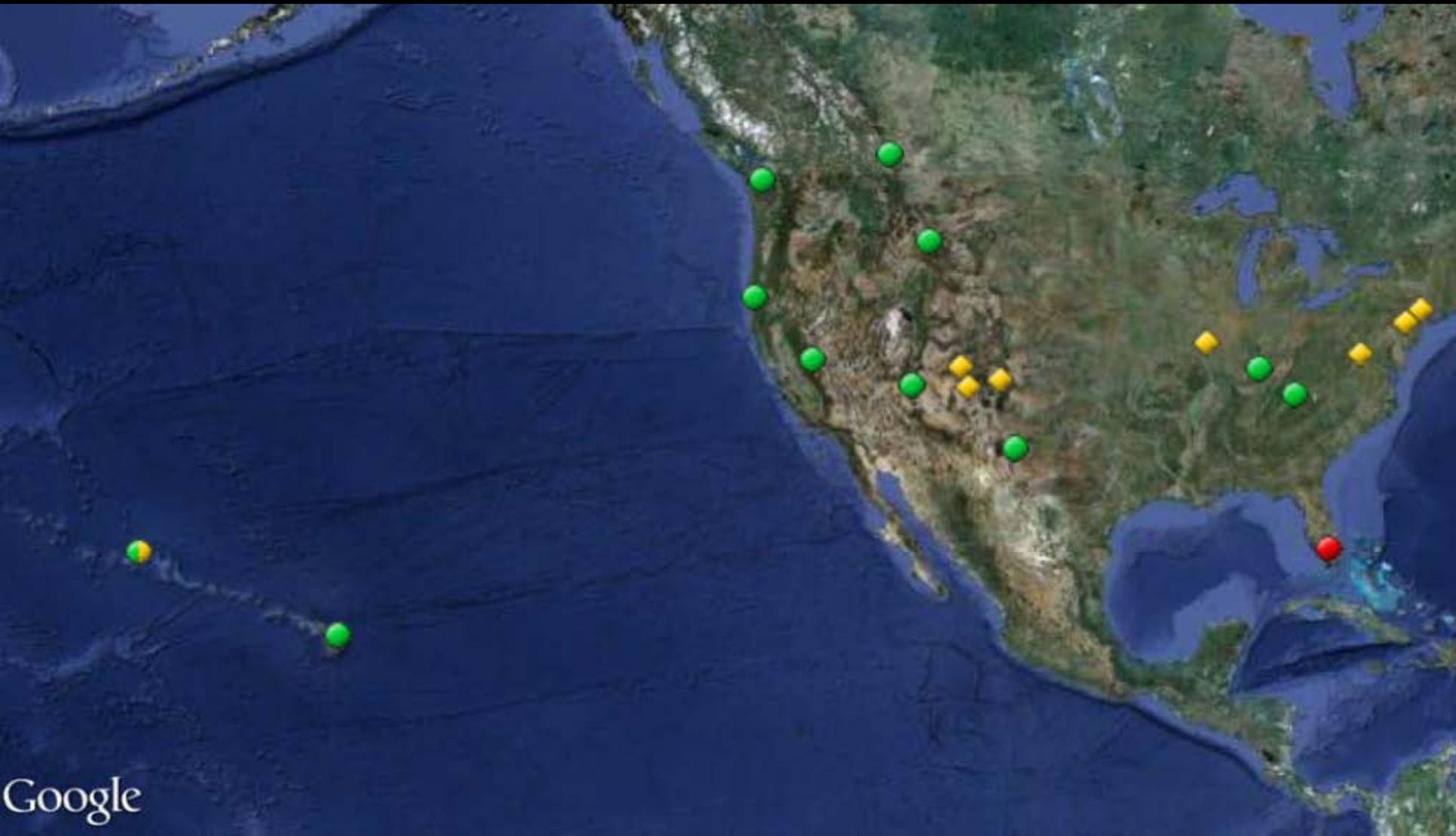
- 1) *Galapagos (Ecuador)*
- 2) *Nahanni National Park (Canada)*
- 3) *Yellowstone National Park (USA)*
- 4) *Ngorongoro National Park (Tanzania)*
- 5) *Simien National Park (Ethiopia) (all in 1978)*

United States of America

21 Sites (2 transboundary with Canada) (12 natural, 1 mixed)

- Mesa Verde National Park
- Yellowstone National Park
- Everglades National Park
- Grand Canyon National Park
- Independence Hall
- Kluane / Wrangell-St. Elias / Glacier Bay / Tatshenshini-Alsek
- Redwood National and State Parks
- Mammoth Cave National Park
- Olympic National Park
- Cahokia Mounds State Historic Site
- Great Smoky Mountains National Park
- La Fortaleza and San Juan National Historic Site in Puerto Rico
- Statue of Liberty
- Yosemite National Park#
- Chaco Culture
- Hawaii Volcanoes National Park#
- Monticello and the University of Virginia in Charlottesville
- Taos Pueblo
- Carlsbad Caverns National Park
- Waterton Glacier International Peace Park*
- Papahānaumokuākea





Google

Summary of the 10 criteria



- ***(i) masterpiece of human creative genius;***
- ***(ii) interchange of human values***
- ***(iii) cultural tradition or to a civilization***
- ***(iv) building, architectural or technological ensemble or landscape***
- ***(v) traditional human settlement, land-use, or sea-use***
- ***(vi) associated with events or living traditions, ideas, or beliefs***
- ***(vii) superlative natural phenomena or exceptional natural beauty***
- ***(viii) earth's history, record of life, landform processes and features***
- ***(ix) significant ongoing ecological and biological processes;***
- ***(x) significant natural habitats for in-situ conservation of biological diversity***

**Cultural
Landscapes –
the combined
work of nature
and man**

Earth Heritage



Criterion viii



- to be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;



The World Heritage Convention is doing a good job of paying attention to Earth Heritage.

217 natural sites

84 sites are recognised for Earth Heritage, in 46 countries.

But World Heritage Convention coverage of Earth Heritage is still very uneven.

(Figures double count transboundary sites)

Africa: 7
Arab States: 2
Asia Pacific: 22
Europe and North America: 45
Latin America and Caribbean: 12

10 USA geological WH Sites

- 1978:** [Yellowstone National Park](#)
- 1979:** [Everglades National Park](#)
- 1979:** [Grand Canyon National Park](#)
- 1979:** [Kluane / Wrangell-St. Elias / Glacier Bay / Tatshenshini-Alsek](#) (with Canada)
- 1981:** [Mammoth Cave National Park](#)
- 1983:** [Great Smoky Mountains National Park](#)
- 1984:** [Yosemite National Park](#)
- 1987:** [Hawaii Volcanoes National Park](#)
- 1995:** [Carlsbad Caverns National Park](#)
- 2010:** [Papahānaumokuākea](#)

Earth Heritage at the global level



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Global Network Of National Geoparks

ENGLISH | 中文版

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THE GGN CONTINUES TO EXPAND
DRAWING
IN NEW EXPERTISE
AND KNOWLEDGE FROM ALL
PARTS OF THE WORLD AND
DIFFERENT CULTURES

EARTH SCIENCES

[International Geoscience Programme](#)

[Earth Science Education in Africa](#)

[Earth Observation](#)

Global Geoparks

- [Members](#)
- [Proposal Submission](#)
- [National Committees](#)



©Taishan Geopark
Ancient building on the top of the Mount Taishan, China

The Global Geoparks idea is being adopted by increasing numbers of Member States. The Geoparks are becoming very popular due to their combination of conservation, sustainable development and community involvement. UNESCO started to be active in this area in 1999 when Geoparks were proposed as a UNESCO programme (document 156 EX/11 Rev.). However, in 2001, at the 161st session of UNESCO's Executive Board, the majority of Delegates decided 'not to pursue the development of a UNESCO geoparks programme, but instead to support *ad hoc* efforts within individual Member States as appropriate'.

Thus, today UNESCO gives its *ad hoc* support to national Geopark initiatives which are coordinated through a Global Network of National Geoparks (Global Geoparks Network [GGN]) where national geological heritage initiatives benefit fully from their membership of a global network of exchange and cooperation. The First International Geoparks Conference took place in Beijing, P.R. China, in 2004. In 2012, the GGN has 90 members in 26 countries.

RELATED INFORMATION

European Geoparks Network



- [31st Coordination Committee Meeting](#)
- [Open Session - Agenda 21 March 2013](#)

Global Geoparks Network



- [Call for hosts of the 6th International Conference on Geoparks in 2014](#)

GEPARK AND:

- [Education](#)
- [Science](#)
- [Culture](#)



United Nations
Educational, Scientific and
Cultural Organization



Global Network of National Geoparks

A Geopark seeking to become a member of the GGN is an area with clearly defined boundaries and a large enough area for it to serve local economic and cultural development (particularly through tourism). Each Geopark should display though a range of sites of international, regional and/or national importance, a region's geological history, and the events and processes that formed it. The sites may be important from the point of view of science, rarity, education and/or aesthetics.



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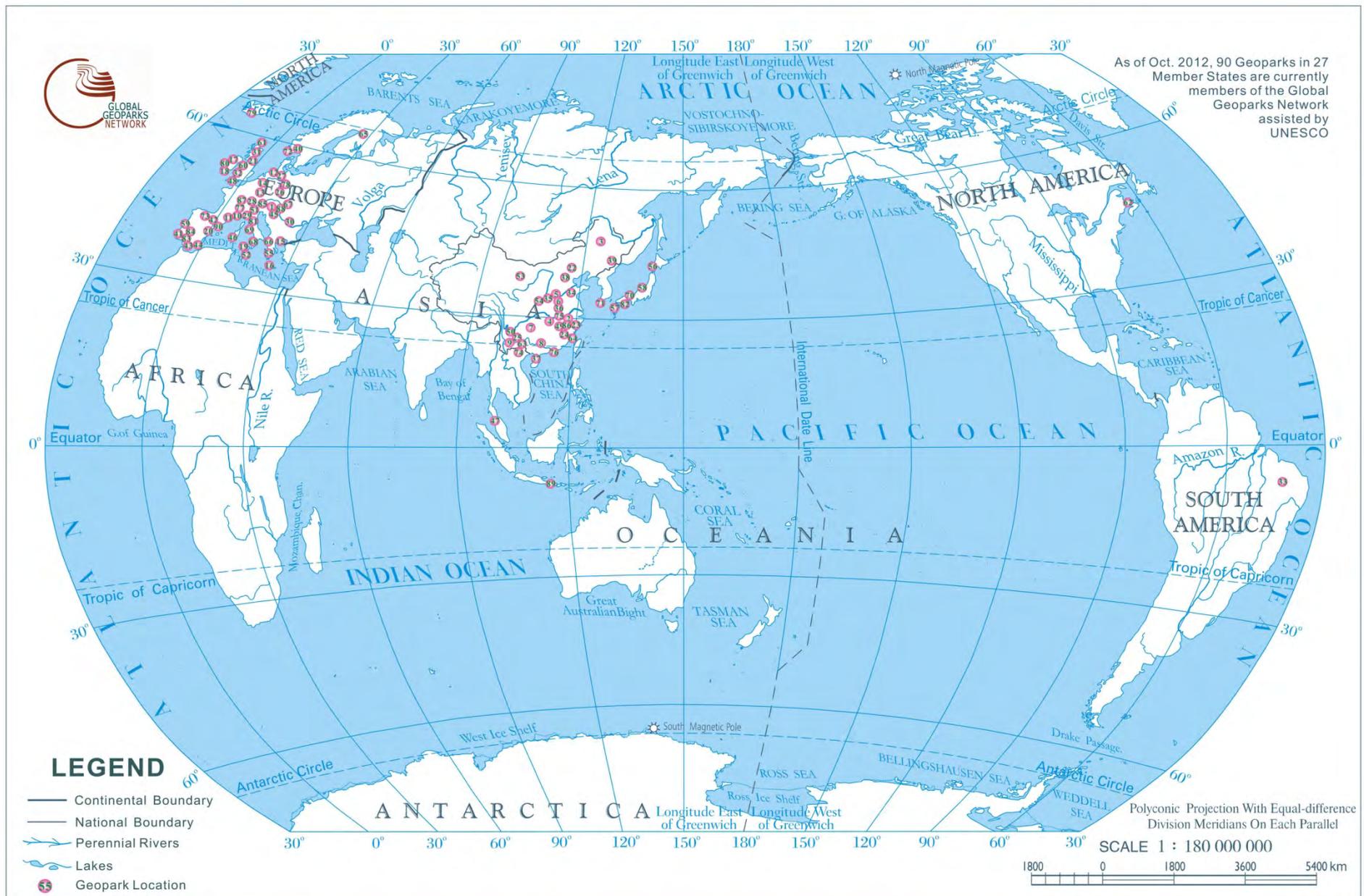


Global Network of National Geoparks

- A Geopark is a geographical area where geological heritage sites are part of a holistic concept of protection, education and sustainable development. The Geopark should take into account the whole geographical setting of the region, and shall not solely include sites of geological significance. The synergy between geodiversity, biodiversity and culture, in addition to both tangible and non-tangible heritage are such that non-geological themes must be highlighted as an integral part of each Geopark, especially when their importance in relation to landscape and geology can be demonstrated to the visitors. For this reason, it is necessary to also include and highlight sites of ecological, archaeological, historical and cultural value within each Geopark. In many societies, natural, cultural and social history are inextricably linked and cannot be separated.



Distribution of GGN Members



A growing network

Year	No.	Total	Countries nominating
2004	21	21	Austria, China, France, Germany, Greece, Ireland, Italy, Spain, UK
2005	11	32	China, Czech Republic, Germany, Italy, Rumania, UK
2006	12	44	Brazil, China, Norway, Portugal, Spain
2007	8	52	Croatia, Italy, Malaysia, UK, China, Italy
2009	9	61	China, Greece, Japan, Portugal, UK
2010	13	74	Canada, China, Finland, Greece, Hungary/Slovakia, Italy, Japan, Republic of Korea, Norway, Spain, Viet Nam
2011	10	84	China, France, Germany/Poland, Iceland, Ireland, Italy, Japan, Spain
2012	6	90	Austria, China, France, Hungary, Indonesia, Spain

Extending the concept



- Geoparks need to extend their global coverage to be fully complementary to World Heritage
- The approach to Geoparks needs to remain consistent as the programme grows
- There needs to be clarity over the Geoparks concept and the standards of both value and management expected of a UNESCO Geopark
- More work is needed to agree on the future development of the concept, and ensure that there is consensus on this.

Extending the concept



- The approach of Geoparks as an initiative responding to the ad hoc efforts of nations is workable, however resources for coordination of Geoparks are an issue.
- Regional networks are needed to complement the arrangements in Europe and China, and ensure a greater geographical spread of Geoparks.
- Clear and focussed advice and awareness raising is required for States.

Earth Heritage at the global level



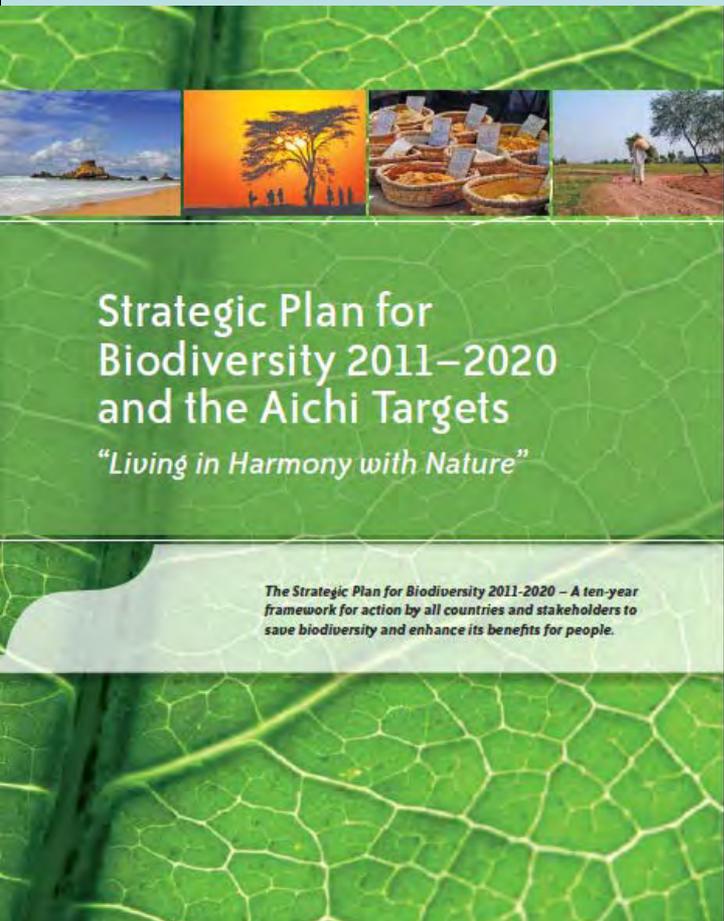
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Protected Areas

- **Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.**



Strategic Plan for
Biodiversity 2011–2020
and the Aichi Targets
“Living in Harmony with Nature”

The Strategic Plan for Biodiversity 2011–2020 – A ten-year framework for action by all countries and stakeholders to save biodiversity and enhance its benefits for people.

Paradigm Shift in Protected Areas

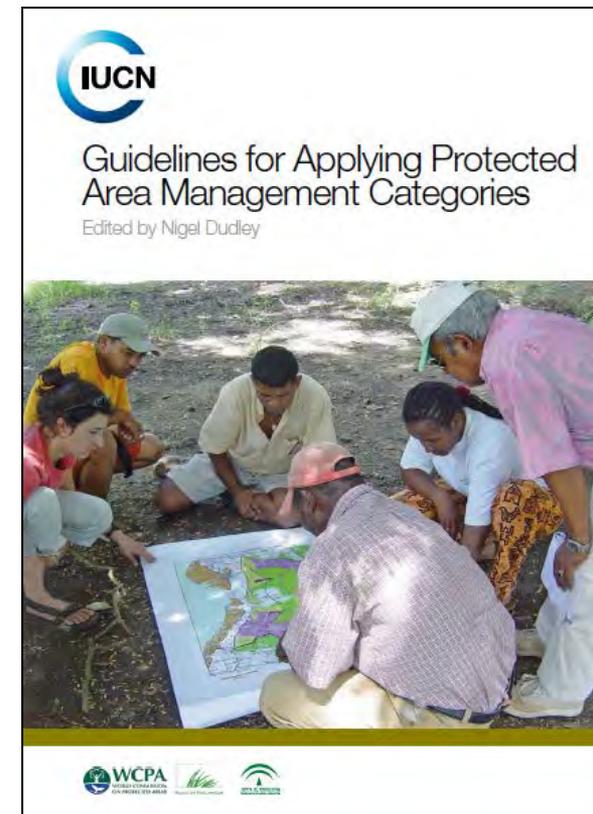
IUCN, 2003

Topic**As it was: protected areas were ...****As it is becoming: protected areas are ...**

Objectives	<ul style="list-style-type: none"> • Set aside for conservation • Established mainly for spectacular wild life and scenic protection • Managed mainly for visitors and tourists • Valued as wilderness • About protection 	<ul style="list-style-type: none"> • Run also with social and economic objectives • Often set up for scientific, economic and cultural reasons • Managed with local people more in mind • Valued for the cultural importance of so-called “wilderness” • Also about restoration and rehabilitation
Governance	<ul style="list-style-type: none"> • Run by central government 	<ul style="list-style-type: none"> • Run by many partners and involve an array of stakeholders
Local people	<ul style="list-style-type: none"> • Planned and managed against people • Managed without regard to local opinions 	<ul style="list-style-type: none"> • Run with, for, and in some cases by local people • Managed to meet the needs of local people
Wider context	<ul style="list-style-type: none"> • Developed separately • Managed as ‘islands’ 	<ul style="list-style-type: none"> • Planned as part of national, regional and international systems • Developed as ‘networks’ (strictly protected areas, buffered and linked by green corridors)
Perceptions	<ul style="list-style-type: none"> • Viewed primarily as a national asset • Viewed only as a national concern 	<ul style="list-style-type: none"> • Viewed also as a community asset • Viewed also as an international concern
Management techniques	<ul style="list-style-type: none"> • Managed reactively within a short time scale • Managed in a technocratic way 	<ul style="list-style-type: none"> • Managed adaptively in a long term perspective • Managed with political considerations
Finance	<ul style="list-style-type: none"> • Paid for by taxpayer 	<ul style="list-style-type: none"> • Paid for from many sources
Management skills	<ul style="list-style-type: none"> • Managed by scientists and natural resource experts • Expert led 	<ul style="list-style-type: none"> • Managed by multi-skilled individuals • Drawing on local knowledge

Protected Area Categories: recognising Earth Heritage

“In this context nature always refers to biodiversity, at genetic, species and ecosystem level, and often also refers to geodiversity, landform and broader natural values.”



A protected area is: “A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”.

In applying the categories system, the first step is to determine whether or not the site meets this definition and the second step is to decide on the most suitable category.

Proposed World Commission on Protected Areas Specialist Group on Geodiversity and Protected Areas



Puits du Roc

Découvert en 1990 par l'Entente
Spéléologique des Bauges

Amis visiteurs,
Avancez à l'entrée du puits, à 20 m de là.
Allumez la minuterie.
Ne passez pas les barrières de sécurité,
Ne laissez pas les enfants sans surveillance,
Respectez cet aménagement, créé pour

The cave « Puits du Roc » was discovered in 1990 by the local speleologists. You are warmly welcome on this site. Just walk to the entrance, and turn the light on. Do not walk past the security gates, do not leave your children unattended.
Please do respect this equipment, created for you to enjoy it. As you walk in, you will discover a 16 foot long meander, that is a remain of an ancient gallery which used to go as far as the small valley still visible on the other side of the chair lift.
You will then reach a wonderful bottle-shaped well 230 foot deep. A secure footbridge and a dim lighting allow the visitors to admire this spectacular drop. This cave is one of the many entrances of a huge network of underground galleries and caves, dug by the seeping water under the Margeriaz Mountain.



Puits

Découvert en 1990 par l'Entente
Spéléologique des Bauges

Amis visiteurs,

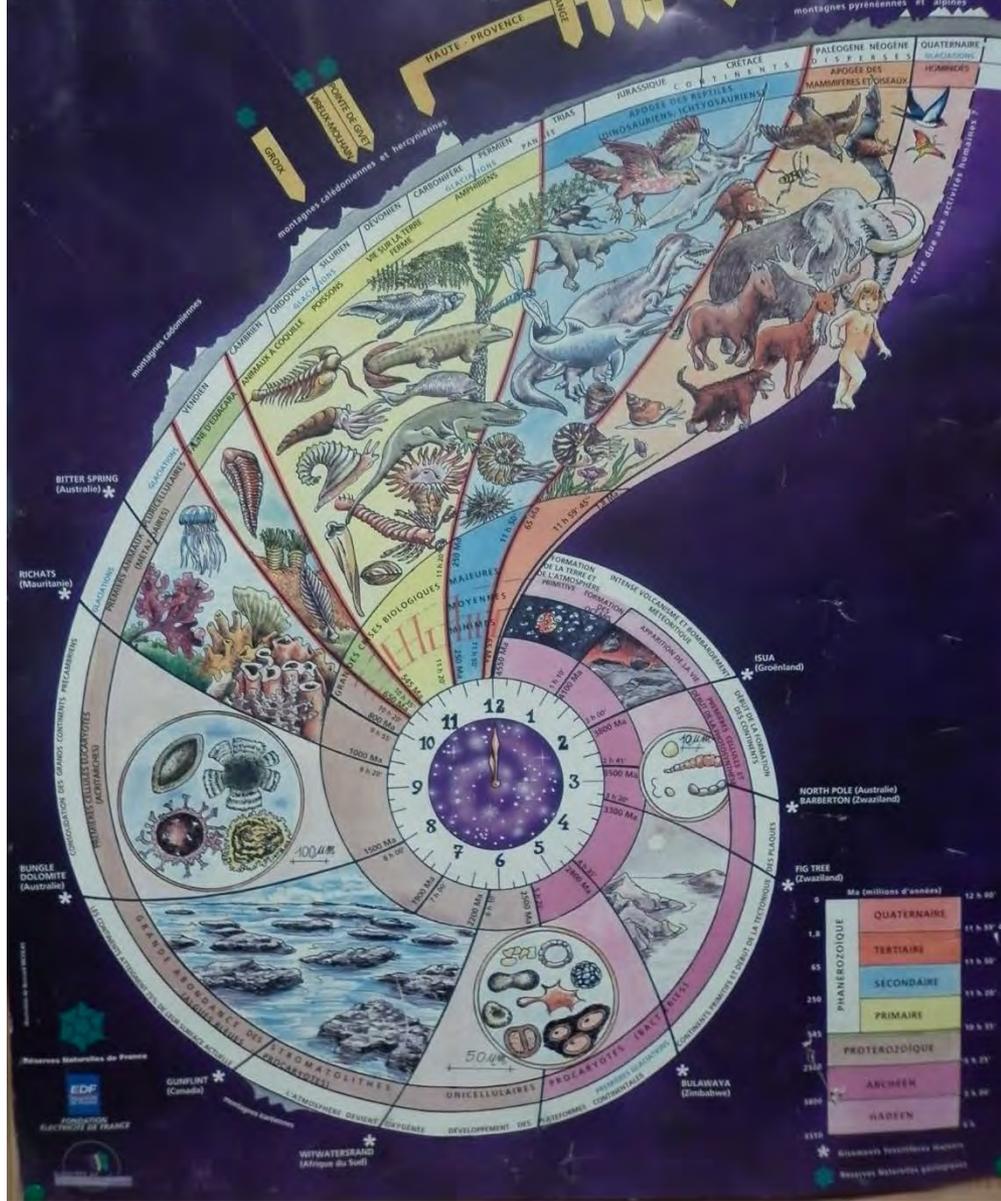
g, vestige d'une galerie qui se prolongeait vers la petite combe encore visible
céder à un magnifique puit en bouteille de presque 70 mètres de
un éclairage permettent d'apprécier ce vide spectaculaire.

réseaux souterrains se développant sous le Margériaz. Ils comportent plus
portantes. Le réseau le plus connu, celui de la tanne aux Cochons,
une dénivellation de 825 mètres.
paraissent à travers toutes ces fissures et après avoir circulé dans des
0 mètres plus bas à la cascade du Pissieu.

f, parcourez le sentier des Tannes et Glacières, accompagnés de son
quelques-unes des cavités ou vous initier à la spéléologie avec des guides
urisme d'Aillon, tel. 04 79 54 63 65

LES TEMPS GÉOLOGIQUES

un tour d'horloge de 4550 millions d'années







DINOSAUR TIMES

Lyme Regis, England

August 25, 1810

Mary Anning, 13, excavated the most complete skeleton of an ichthyosaur known. London's Natural History Museum purchased the specimen, yet Anning still collects fossils from seaside cliffs for her family's small rock shop nearby.



Ichthyosaur skeleton

The tongue-twister, "She sells sea shells by the sea shore..." was created from Mary's story.

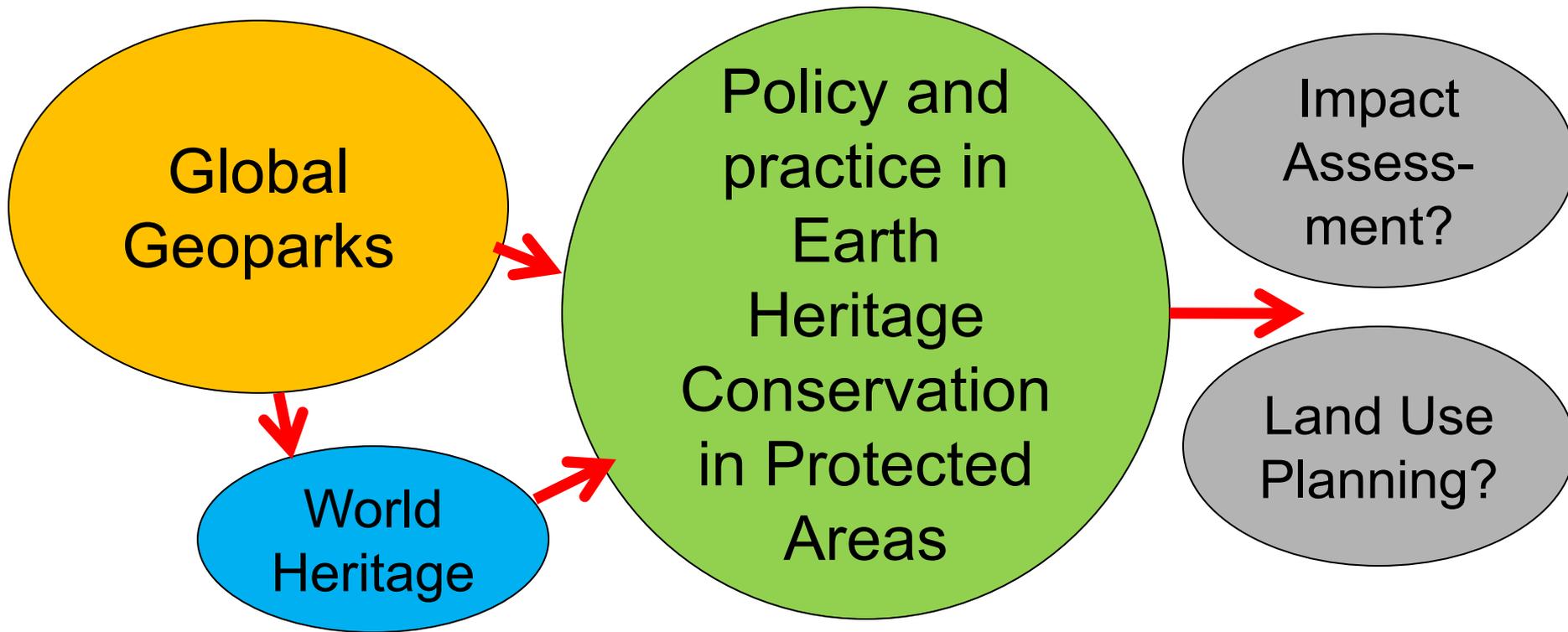


Positioning Geodiversity?



- A connected part of nature conservation, part of an integrated approach to conservation and sustainable development. Linked with biodiversity.
- Cultural significance of geological features.
- Reach beyond protected areas: part of restoration and mining landscapes.
- Leading models of conservation linking to benefits and development.
- Connection to the major stakeholders in extractive industries.
- Leading practice on the ground in Global Geoparks.

Next steps...



Building Partnerships

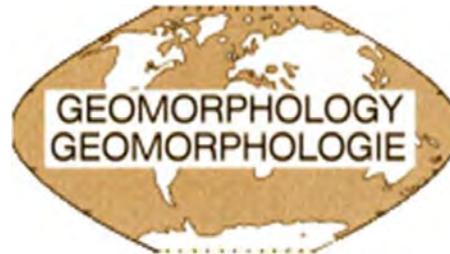


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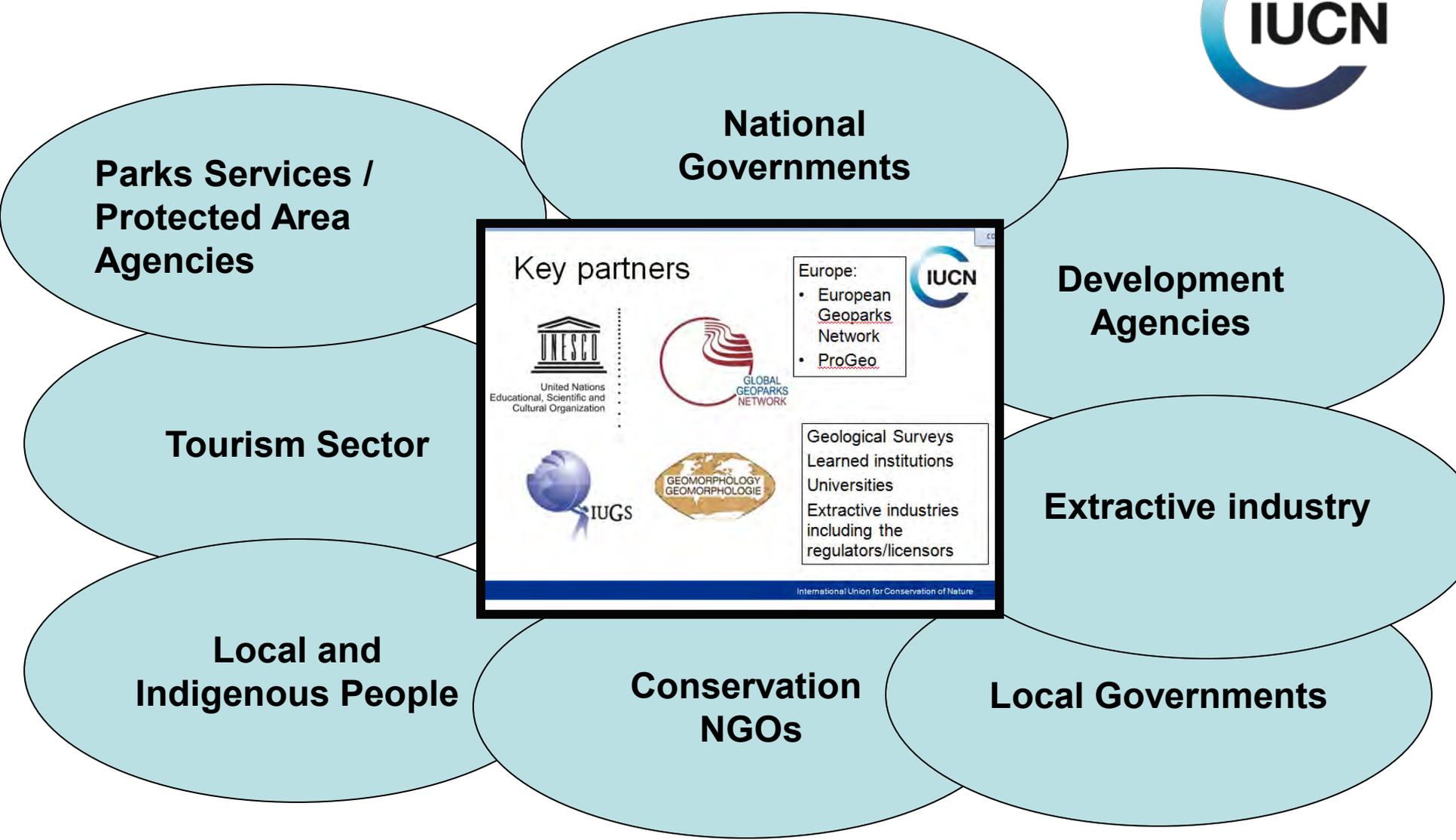


Europe:

- European Geoparks Network
- ProGeo



Geological Surveys
Protected area/land
management agencies
Learned institutions
Universities
Extractive industries
including the
regulators/licensors



USA Leadership



- Current excellence to share, and opportunity to deliver new leading practice.
- Show how geodiversity links to biodiversity and cultural heritage.
- Promote and support international initiatives, not only a domestic agenda: engage with UNESCO, IUCN and IUGS to seek a more ambitious approach to global geodiversity conservation and management.

Thank you!



America's Geologic Heritage