Geoparks: Creating a Vision for North America (panel discussion summary)

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Background

The Global Network of National Geoparks is a network of 56 parks in 18 countries, assisted by United Nations Educational, Scientific and Cultural Organization (UNESCO), that provides opportunities for geotourism, interprets geological heritage, assists local economies, supports research and understanding of geological processes, and connects people to the landscape. As defined by UNESCO, "A Geopark is an area with a geological heritage of significance, with a coherent and strong management structure and where a sustainable economic development strategy is in place … geological heritage and geological knowledge is shared with the broad public and linked with broader aspects of the natural and cultural environment, which are often closely related or determined to geology and landscape." In this session, a panel of international experts on geoheritage presented the geoparks concept and led a discussion of how and where geoparks may be applied within the North American community of protected areas.

Panelists

- Robert Missotten, Chief, Global Earth Observation Section, UNESCO, Paris; r.missotten@unesco.org
- Tim Badman, Special Advisor, World Heritage Programme on Protected Areas, International Union for Conservation of Nature (IUCN), Geneva; tim.badman@iucn.org
- Wesley Hill, International Secretariat, Geological Society of America, Boulder, Colo.; whill@geosociety.org
- Lindsay McClelland, National Park Service, Geologic Resources Division, Washington, D.C.; lindsay_mcclelland@nps.gov

This panel was organized by Suzette Kimball, Associate Director for Geology and International Programs, USGS, Reston, Va.

Summary of panel discussion

The session was attended by forty to fifty individuals, including representatives from the National Park Service (NPS) and other land managers. In the audience were Jonathan Putnam, Western Hemisphere Affairs and World Heritage, NPS, and John Dennis, Deputy Chief Scientist, NPS.

1. Welcome

In the absence of Suzette Kimball, Richard Calnan (USGS, rcalnan@usgs.gov) chaired the panel session. Rich welcomed all the attendees and extended a special thanks to the panelists

for their participation. Rich provided an overview of UNESCO, and the history of U.S. cooperation with UNESCO, which included the USA rejoining UNESCO in 2003. He mentioned the UNESCO conservation efforts (World Heritage Program, World Network of Biosphere Reserves, and the Global Geoparks Network (GGN)). He then gave a brief overview on GGN, an initiative established in 2004 to provide an elevated global platform where geological heritage sites can cooperate. Currently, there are 56 national Geoparks in 18 countries: Australia, Austria, Brazil, China, Croatia, Czech Republic, France, Germany, Greece, Ireland, Italy, Iran, Malaysia, Norway, Portugal, Romania, Spain, and United Kingdom. It was pointed out that there are none in North America.

2. UNESCO Geoparks initiative

Robert Missotten (UNESCO) began his presentation with an overview of the World Heritage Program and Biosphere Reserves, which is under the Man and the Biosphere Programme (MAB). World Heritage sites and Biosphere Reserves are internationally recognized by UNESCO through a convention or a statutory framework. The World Heritage List currently lists 878 sites, with seven percent primarily geological/morphological in nature. There are 531 Biosphere Reserves in 105 countries. The Reserves serve as environmental research and monitoring sites. He stressed that the GGN is more of a bottom up approach than the top down approach of the World Heritage and the Man and the Biosphere initiatives.

The Network of National Geoparks has three components: conservation, sustainable development and tourism, and education. UNESCO's role in GGN is to provide a platform for regional and international cooperation, set standards, provide policy advice, and lend visibility, global recognition, and UNESCO's label of excellence. UNESCO serves in an advisory role. providing international experts to evaluate a geopark once a nomination is submitted. Geoparks are admitted to the GGN by decisions made at the International UNESCO Geopark Conference, held every two years. There are guidelines and criteria available for the creation of a Geopark (www.unesco.org/en/earth).

The cost associated with setting up a Geopark varies. The planning and application costs are different among countries because of the expertise available, the size of the project, and the partnerships involved. The cost of preparations for and running of a Geopark also varies, and can include evaluation costs, member participation costs in GGN activities and meetings ($7,500 to $15,000), site management costs handled by local organizers ($75,000 to $3.6 million), and revalidation (conducted every four years).

Visitor statistics are difficult to determine for Geoparks, but where statistics are available, it is noted that once parks become members of GGN, visitation has increased by as much as 25 percent. Robert ended his presentation by emphasizing the benefits of joining the GGN, including jurisdiction and participation at the local level; socio-economic stimulus to local economy; and improved awareness by decision makers, media, public, teachers, and young people about geologic heritage and conservation. Useful websites for information on geoparks include UNESCO (www.unesco.org/en/earth), and European Geoparks Network (www.europeangeoparks.org/).

3. The World Heritage Convention and geological heritage

Tim Badman, IUCN, presented an overview of the World Heritage Convention, which was established in 1972 and is among the most widely accepted international conservation treaties. The Convention provides for the protection of those cultural and natural sites deemed to be of outstanding universal value. As of 2008, there are 878 sites on the list: 679 are cultural, 174 are natural, and 25 are mixed. In North America, there are a total of 62 sites, of which 39 are cultural and 23 are natural. The Convention is governed by an elected Committee of 21-nations that reviews nominations (made by member countries) to the World Heritage List, and designates World Heritage Sites. The USA and Canada are currently on the Committee; their terms end in 2009.

To be on the World Heritage List, sites must be of outstanding universal value and meet at least one of ten selection criteria. There are two sets of criteria that the Committee applies: one set for cultural sites and another set for natural sites. The Earth Science Criterion (viii) recognizes places that are: "outstanding examples representing major stages of earth's history, including record of life, significant ongoing geological processes in the development of landforms, or significant geomorphic or physiographic features." The World Heritage List has 74 properties that have been inscribed under this criterion with a primary value for Earth Science. A framework for the application of the Earth Science Criterion has been established under the following 13 themes: tectonic and structural features; volcanoes/volcanic systems; mountain systems; stratigraphic sites; fossil sites; fluvial/lacustrine and deltaic systems; caves and karst systems; coastal systems; reefs, atolls and oceanic islands; glaciers and ice caps; ice ages; arid and semi-arid desert systems; and meteorite impact sites.

Tim stressed that local involvement in the nomination process is critical. Alternative mechanisms to complement World Heritage listings are necessary. The Convention is highly selective and can only recognize a limited number of the most important global sites that are of outstanding universal value ("the best of the best"). Geoparks should be seen as a viable and effective mechanism to complement World Heritage listings and to recognize internationally important sites. There needs to be clarity regarding the Geoparks concept, and the expected standards of both values and management in UNESCO Geoparks. Also, regional networks are needed to complement the arrangements in Europe and China and to ensure a greater geographical spread of Geoparks. Full local community involvement in Geoparks is encouraged and resources for coordination of Geoparks are an issue. He concluded by stating the Geoparks initiative is still in its early days and experience is being gained in the concept and IUCN is fully supportive of its continued development.

4. GSA perspective on UNESCO Geoparks initiative

Wesley Hill, of Geological Society of America (GSA), began with a presentation of the GSA mission and vision. GSA is interested in three components of Geoparks: conservation of our most significant geological features and sites, education of visiting public and research, and geotourism to increase public interest in our geoheritage. Geoparks provide an international structure to link designated national geoheritage sites around the world under a common

global umbrella. By participating in Geoparks, the U.S. designated sites would be brought into the established family of global Geoparks. This could provide increased opportunities for networking with site managers from around the world and provide global recognition and prestige for the Geopark site. The benefits of Geoparks site include opportunities to highlight geoscience research and information to local residents, policy makers, media representatives, and local schools; wider recognition and a higher profile of the site; public education spotlight on geoscience topics including volcanoes, earthquakes, tectonics, minerals, caves, and paleontology; and promotion of the site's geological heritage and its role in the history of the local area. Geoparks provides opportunities to increase geotourism in the area exposing the public to a wide range of geoscience topics.

The International Union of Geological Sciences (IUGS) partners with UNESCO on geological initiatives and is a supporter of Geoparks. IUGS is one of the largest scientific organizations in the world, and has approximately 120 member countries.

The role of UNESCO in Geoparks: UNESCO provides only endorsement, and has no control over any Geoparks. Ownership lies at all times with the host nation and with the host authorities. UNESCO's role can be best described as a type of quality branding.

The GSA, which is a member of the scientific geologic community, is interested in partnering with land managers, scientists, the tourism industry, and educators to see increased public exposure to and education in the geosciences through the Geoparks initiative. However, GSA cannot go about this alone and needs your support to help develop the program in the U.S. To start the program in the U.S., the following is needed: feedback from the field, approval of U.S. Geoparks, development of a U.S. Geoparks working group, development of U.S. guidelines from the existing UNESCO Global guidelines, announcement and marketing of the program to potential sites, and development of the application process.

Wesley also mentioned that GSA is currently assisting with the GeoCorps Program. GSA, through the GeoCorps program, strives to increase the number of geoscientists on-the-ground, assisting with public land management and protection of geologic resources. GSA's possible roles in Geoparks would be, with organizational funding support, to provide assistance in developing a U.S. Geoparks program strategy; as a non-governmental organization, to help organize and participate in a U.S. Geoparks working group committee (made up of land management agencies, tourism industry, geoscientists, educators, etc.); to provide assistance managing the Geoparks application process; and potentially to provide support from GSA member geologists.

5. Geoparks and the National Park Service

Lindsay McClelland, of the NPS, presented the NPS perspective on Geoparks. The NPS is currently assessing its participation in a U.S. Geoparks program. The agency is coordinating the effort through its Geologic Resources Division and Office of International Affairs. Briefings have taken place at the Associate Director's level, and the NPS is working with the Geological Society of America (GSA) and the USGS. NPS managers have expressed concerns about Geoparks, including the need for Geoparks if NPS is already participating in the World Heritage Program; the amount of work, including administrative burden required for

the process; public opinion; actual benefits of Geoparks designation; and demonstration of socio-economic impacts, such as increased visitation.

Most of the World Heritage Sites in the USA are icon parks that are well known to the public, and have high visitation. The sites generally either include the entire park, or are contained within the park. Examples include Yellowstone, Everglades, Grand Canyon, Hawaii Volcanoes, and Great Smoky Mountains. Potential U.S. World Heritage nominations, for as long as the next decade, will be taken from the 2008 tentative list, which contains mostly cultural sites, but also includes two geology-focused parks (White Sands and Petrified Forest), and the Papahanaumokuakea Marine National Monument.

There may be opportunities where a Geopark can complement a World Heritage Site. For instance, currently many sites with great geologic significance are larger than a single park. The NPS may manage only a small part of the geologically significant area, and other multiple-use agencies, such as the Bureau of Land Management (BLM) and U.S. Forest Service (USFS), manage much of the remaining geologic area. The World Heritage Convention has strict protection standards that are a poor fit for multiple-use agencies. The Geoparks concept is a better fit for sites with multiple landowners and managers it will accept certain economic uses, and it does not require demonstration of global significance.

The next steps for the NPS: work with GSA to draft U.S. Geoparks criteria; assess park interest based on draft criteria; seek information on Geoparks program benefits from other nations; coordinate with other agencies (USGS, BLM, USFS); clarify the role of GSA and the geologic community; brief NPS Directorate and Interior Department officials; seek interest and support from other organizations, such as the Association of American State Geologists; and prepare a multiagency proposal for the U.S. National Commission on UNESCO and the State Department's International organizations bureau.