



*The Bigganjarga tillite, Finnmark, Norway - protected as a Natural monument since 1967. Photo: Lars Erikstad*

## Protocol on geoconservation

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The natural heritage of any country includes its geological heritage, made up of many key geosites, as well as landscapes, profoundly shaped and defined by their geology. Fossils, rocks and minerals are just as much part of our natural heritage as living plants and animals. However, everywhere geological heritage is under-valued and under threat, even in countries that have relevant conservation legislation.

Practice is so variable between countries: in one a scientifically unique site might be being quarried away or filled with waste; in another valid geological research is obstructed by oppressive bureaucratic regulations; while in a third commercial dealers at

some sites are busy carting off every fossil they can for sale - leaving little behind for scientific pursuits or wider educational use.

In a minority of countries geoconservation is seen as an essential activity. However, in many there is still absolutely no official recognition even that geosites are cultural and scientific goods of national importance (and worth protecting). And yet, the vital evidence for the 4,500 million year history of the Earth is an undisputed, shared international heritage.

This was first widely recognised at the ProGEO Digne geoheritage symposium in 1991, and it immediately informed UNESCO's re-examination of geological sites under the World Heritage Convention. Later it influenced the initiation of ideas on geoparks within ProGEO and then UNESCO, it informed the

IUGS/ProGEO Geosites project, and then a declaration on geoconservation from the ministers of the Council of Europe, and, most recently, it led to the launching of the *Geoheritage* journal.

Many years of conservation effort and the initiation of effective methodologies and actions have usually gone unnoticed by a wider society. Nowadays, a lot of new people are joining in with heritage and conservation activity, some coming from a wider public, some from non-geological disciplines, some focusing on protecting or simply promoting an isolated site or local area. Some have ideas purely of touristic exploitation.

Therefore, there are lots of people trying to start at the beginning, some unaware of even the words "geoheritage" and "geoconservation", and equally of their historical development over the years. So ProGEO has drawn together some principles and facts - a protocol for geoheritage and its practical conservation. The text is to assist anyone who is getting started in the valuable field of geoheritage. To the initiated there will be few surprises, but for those new to the subject we hope that it will provide some guidance and help.

The protocol is meant to be a help in practical Geoconservation work. It will be found on our web-site:

**[www.progeo.se](http://www.progeo.se)**

as a pdf-document (see facsimile on the last page).



Figure 1: The National Park of Gargano. Photo: Simone Oronzo

## VII International Symposium ProGEO on the Conservation of the Geological Heritage

Bari, Italy, 23-28 September 2012

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The Italian Society of Environmental Geology (SIGEA) and the European Association for the Conservation of the Geological Heritage (ProGEO) organise the VII International Symposium ProGEO on the Conservation of the Geological Heritage. People invited are professionals, academics and students dealing with nature conservation, geotourism, geoparks, life-learning programs, education, management, sustainable development, planning and decision-making

The Symposium will take place in Bari, Apulia, Italy, on September 23-28, 2012, and will be held at the Sala Murat, Piazza del Ferrarese.

The main aims of this Symposium are:

- to discuss on threats and constraints imposed by land-use planning;
- to discuss on recent developments in biodiversity assessment methodologies and geosites inventories in Europe;
- to discuss on legal frameworks to support geoconservation strategies;
- to encourage a possible convergence between geoconservation and geotourism;
- to discuss on sustainable management policies and geosites use in geoparks;
- to promote the best practices and lesson learned in geoparks for local development;
- to enhance geotourism and its potentials for regional development;
- to implement the most effective outreach methods for successful communication with public, decision- and policy-makers;
- to improve international cooperation and local initiatives in scientific diffusion;
- to establish links between geoconservation specialists, mainly in the Mediterranean area;
- to support special measures and guidelines for conservation of our shared geoheritage



Figure 2: The Salento Peninsula. Photo: Simone Oronzo

Three field-trips are planned; these are: two one-day pre-symposium field trips (Gargano headland and Salento Peninsula) and one two-day field trip after the symposium (Alta Murgia, Matera and Lucan Appennine).

#### September 24<sup>th</sup>:

- The National Park of Gargano lies on a calcareous headland bordered by high cliffs (Figure 1).
- The Salento Peninsula is characterized by rocky cliffs carved by a number of coastal caves yielding Pleistocene faunal remains and traces of early human occupation (Figure 2).



Figure 4: The "Sassi" of Matera. Photo: Simone Oronzo

#### September. 27<sup>th</sup>-28<sup>th</sup>:

- Alta Murgia and Matera: The National park of "Alta Murgia" is characterized by the occurrence of karst phenomena. The "Sassi" and the Park of the Rupestrian Churches of Matera have been declared part of the UNESCO World Heritage (Figure 3)
- Lucan Appennine: Large erosive landforms as the "Valle dei Calanchi" (Badlands Valley) of Aliano with tectonic processes in "Dolomiti Lucane" and geomorphic processes in National park of Lucan Appennine (Figure 4).

During the symposium ProGEO will have a general assembly and a council meeting. 1st circular will be out within few days and will be found at the ProGEO Website. [www.progeo.se](http://www.progeo.se).



Figure 3: The Badlands Valley of Aliano. Photo: Mario Bentivenga

## Geoconservation for Science and Society

**Report of a conference aimed at looking to the future**

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The Geologists' Association Annual Conference, Geoconservation for science and society: an agenda for the 21st Century, attracted 120 delegates to the University of Worcester, in the English Midlands, on 9th and 10th of September 2011. The aim of the conference, which was supported by Elsevier, Natural England, the Quaternary Research Association, the British Society for Geomorphology and the UK Geodiversity Action Plan partnership, was to celebrate geoconservation success to date, but more importantly to consider the opportunities and challenges that lie ahead (See Prosser et al. 2011) <http://dx.doi.org/10.1016/j.pgeola.2011.01.007>. A first day of presentations, posters and a structured debate was followed by a field visit to sites where local geological groups are involved in delivering innovative geoconservation projects within their community.

The presentations on the first morning described the existing portfolio of geoconservation sites, designations, groups and initiatives, the scientific use that is being made of conserved sites, the importance of natural processes in understanding and managing the natural environment, the role of geodiversity in providing ecosystem services and supporting climate change adaptation strategies and the potential for closer collaboration between those involved with geoconservation and those involved in archaeological conservation. The afternoon session focussed on identifying funding sources for geoconservation, the role of major landowners such as the National Trust in conserving and promoting geodiversity, the importance of local geological / geoconservation groups and local communities in delivering geoconservation, the international opportunities for geoconservation (Tim Badman of IUCN) and the importance of raising public awareness of geology and geoconservation.

A debate on the way ahead for geoconservation then took place, with delegates posing questions to a Panel made up of David Bridgland (President of the Geologists' Association) Cynthia Burek (GeoConservationUK and Chester University) and Colin Prosser and Andrew Wood (both of Natural England). The day ended with a poster session and the formal launch of the latest volume of the Proceedings of the Geologists' Association, made up entirely of papers



*A local 'champion' talking about the newly created exposure of the Ordovician Lickey Quartzite.*

describing the nationally important Marine Devonian sites that have been identified for conservation through the Geological Conservation Review process.



*Delegates here from Graham Worton of Dudley Museum about the new interpretation planned for the Wren's Nest National Nature Reserve.*

The second day of the conference provided the opportunity for the delegates to see conservation successes on the ground. A visit to the Lickey Hills, near Birmingham, where the 'Champions Project' has resulted in a disused quarry being re-exposed and local people getting involved in 'championing' and promoting the site amongst their local community was followed by a visit to the Wren's Nest National Nature Reserve where delegates heard about new and innovative interpretation that is due to be installed by the local authority.

The conference was extremely timely in that it enabled the geoconservation community to take stock and look forward at a time of major economic and social change. It was agreed that a great deal had been achieved but that there is still much to be done at a time when resources will be hard to come by.

A wide range of views and ideas emerged during the event but the general messages that came from the conference were that if geoconservation is to continue to develop we need to retain the sites and groups we already have, we need to work with wildlife and archaeological bodies and be more integrated in approach, and we must make geoconservation more relevant to politicians, the general public and local communities. In order to achieve this latter goal we must do much more demonstrate the relevance of geodiversity and geoconservation in supporting ecosystems, climate change adaptation and human well being and we need to do this in a language that politicians and the general public understand rather than in the way that we, as geologists, would wish to express it.

A Proceedings Volume from the conference is planned for publication in the Proceedings of the Geologists' Association during 2012.

## Reference

Prosser, CD., Bridgland, DR., Brown, EJ. & Larwood, J.G. **2011**. Geoconservation for science and society: challenges and opportunities. *Proceedings of the Geologists' Association*, 122, pp 337-342.

## Regional meeting of ProGEO Working Group for Northern Europe

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With the sun shining and showing off Oslo and Norway from its very best side, we met on the 21 – 23 September during a three day event arranged by the Natural History Museum, University of Oslo.

Day one and three, the meeting was held in the auditorium in Zoological Museum, and right outside of the room we were very lucky to have constant access to the exhibition of the well preserved amazing fossil of the little ape-girl Ida, our oldest found ape-like ancestor. This is a conservation success story of its own. As a very nice divider to the meeting sessions, day two held a one-day excursion in the Oslo Area.

The theme of the meeting was geoconservation for the future, with "emphasis focused on mapping, legislation and management on different scales from sites with international value to local landscape character sites". The sessions were divided into: Geoconservation strategies, Geotourism and dissemination, The ecological perspective, and The landscape perspective. Several talks brought up the eco system approach and classification of nature types. There were also inspiring talks about for example making building stone atlas as well as development of geotourism and different projects aiming to increase the understanding and interest of geology. The question was put how ProGEO should make a more significant input into the Day of Geology, or equivalent, which is celebrated in many countries.



ProGEO was warmly welcomed to the Natural History Museum in Oslo. Photo: Jon Markussen

Again, it is striking how we in different countries are struggling with similar issues more or less by ourselves, from raising awareness to trying to find ways to integrate the geological perspective into (other) nature conservation, and even into the landscape concept. And also how geology matters, or not, in more legal issues.

On the second day we had an excursion in the Oslo area. With the vessel "Rigfar" we were offered fantastic views in the archipelago of the Oslo fiord outside the city and were presented an overview of the pre-Quaternary geology of the Oslo region and its impact on the landscape.

Changing from boat to bus, we continued to get the exciting story behind a newly discovered paleontological heritage site in Slemmestad. Here we were introduced into a success-story of local acceptance and engagement to conserve the site. The local soccer team discovered an extremely fossil rich site by accident while trying to create better view-points for the soccer public, and contacted the geologists that were excited about the finding of national and international importance and wanting to protect the site. We also enjoyed watching a short TV-recording that dramatized the "conflict of interest" between the soccer

team and the geologists, with quite a humoristic touch!

The excursion continued to Gardemoen, a large glaciofluvial delta on which the airport is situated and that experiences a high pressure of land development. The delta shows an outstanding geological diversity and quality and is also an important ground water aquifer. We were presented to some of the geoconservation efforts in the area, including the good actions of sheep keeping the landforms open and visible. The excursion day was completed by a pleasant dinner at County Governor's Office, hosted by Jon Markussen.

A business meeting of the regional working group also took place. We also discussed the form of future Working group meetings, and many of us enjoyed very much the thematic approach, perhaps having inspiring key talks together with thematic workshops.

Many thanks for excellent guiding and hosting by Lars Erikstad, Sylvia Smith-Meyer, Hans Arne Nakrem, Jon Markussen and Vegar Bakkestuen – and to the Natural History Museum.



*The fossil site at Slemmestad. Photo: Jon Markussen*

## The contribution of Dutch landscape painters to the conservation of geoheritage, a reconnaissance

Pieter Jungerius, University of Amsterdam, Geoheritage NL  
 Hanneke van den Ancker, Geoheritage NL with the cooperation of Nina Wevers, Art Historian at Simonis & Buunk Art Gallery, Ede, The Netherlands

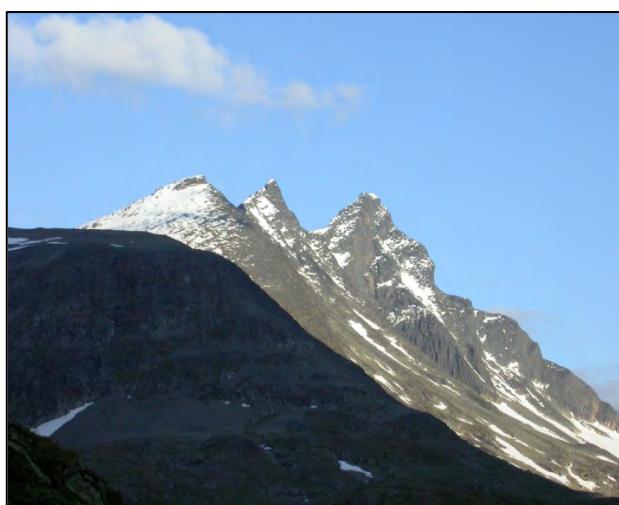
### Introduction

Landscape images are a way to register geoheritage. Until the 1950's landscapes have been documented chiefly by landscape painters; because useful photographs were scarcely available. We looked through a large number of their products to assess their geoheritage value.

What is a landscape? The shortest and most useful definition is based on simple visual qualities: landscape = form (relief, shape) and cover ((landuse, forests, roads, houses, etc.)

This definition was developed by a physical geographer, dr. G.C. Maarleveld, for mapping the landscape of The Netherlands. The qualifications between brackets show that both qualities have physical, biological and cultural aspects, which is not surprising in view of the multiple functionality of landscapes.

Landscapes have been a source of inspiration for painters since the 14th century. The art underwent a paradigm shift in the 19th century when painters changed their studios for the open air, the 'pleinairisme'.



Hurrungane mountains, S. Norway. Photo: Lars Erikstad



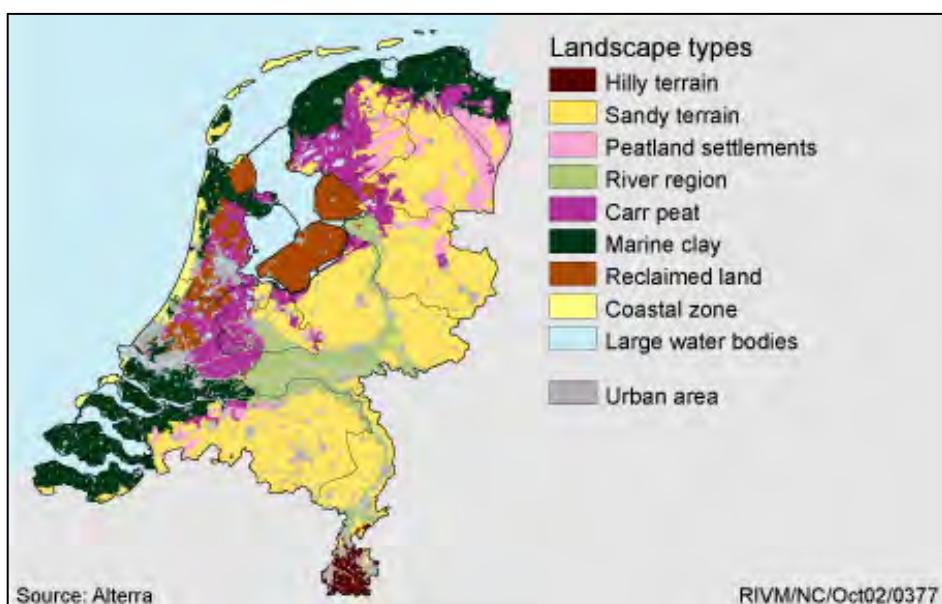
Góra Cisowa, Poland. Photo: Lars Erikstad

The movement started at the beginning of the 19th century when paints could be carried out into the field in tubes. The enormous production since then makes it possible to find an image of almost any landscape type of The Netherlands. A further characteristic of that time is that the painters formed painter communities or other forms of cooperation, scattered all over the country. Collectively they are known as "Haagse School".

These communities can be grouped according to the landscape typology of the first geological map produced by Winand Staring in the mid-19th century. It is a transparent functional typology that is still widely in use by the government, in primary school education, archaeology, historical geography and ecology. All the landscapes of this map attracted painters.

To find representative paintings of each of these landscapes, we went through the actual collection of Simonis & Buunk, an art gallery in Ede that has 19th and early 20th century landscape paintings as one of their specialisations. The collection, which is presumably the largest on the subject online available in Europe, can be freely consulted ([www.simonis-buunk.com](http://www.simonis-buunk.com)). We evaluated the paintings for the geoheritage information they contain of the landscape before nature photography was widely practiced.

For the ProGEO meeting we selected paintings containing geoheritage information of three common Dutch landscapes - the coastal zone, the Holocene peatland and the Pleistocene sandy terrains and their subtypes. Although the freedom taken by the painters to adjust reality for compositional or stylistic reasons is still a subject of research, the selected paintings are sufficiently realistic to be translated in real landscape features, including geomorphological processes and elements.



*Landscape map of The Netherlands*

We also gave the present status of these landscapes: are they still in existence and to what extent is their geoheritage value under threat? To illustrate the potential of the material for sustainable landscape reconstruction one example is given of each of the three landscapes. A fuller account will be submitted to ProGEO journal Geoheritage.

### Coastal Zone

The coastal zone is subdivided in 8 sublandscapes (North Sea, Zuyder Zee, beach, foredune, dune types, "zeedorpenlandschap", "binnenduinrand" and geest). The foredunes are selected as an example.

### Foredunes

The foredunes are an essential part of the coastal defence against the sea. This painting by Kaemmerer. They are representative for Natura 2000 habitat type H2120.

### The Holocene Peatlands

The Holocene peatlands are subdivided in 6 subtypes (peat polders, peat rivers, peat lakes, reclaimed peat polders, canals, and plassen (lakes left after peat-cutting)). The latter serve as example.



*The painting on the left was made in 1873 by F.H. Kaemmerer near Scheveningen, The sand-catching marram grass needs a regular supply of fresh sand to maintain its vitality. Suppressing this supply by prohibiting public access and other safety regulations turned the foredune into the present-day unimaginative sand dike depicted by H.H. Kamerlingh Onnes (1893) on the right.*



*Lake with 'legakkers' as seen by J.S. Knikker Sr (1889-1957) The attractive islands are constantly damaged by boats and waves and eventually disappear. This is an irreversible process.*

## Artificial lakes

Artificial lakes are left when the peat is removed. Characteristic for these waterbodies are the series of islands, the so-called 'legakkers', strips of the original moor used for drying the peat.

## The Pleistocene Sandy terrain

The mainly Pleistocene sandy terrains are subdivided in 6 subtypes (push moraines, cover sands, brooks, essen, reclamation land [former moor peat], and drift sands). The drift sands are selected as an example.

## Drift sands

Drift sands originate from late-glacial cover sands that were reactivated by the frequent megastorms of the 11th and 12th century. They have been nicknamed 'Atlantic deserts' on account of the prevailing extreme climatic conditions to which plants and animals are adapted. They are classified as Natura 2000 habitat type H2330

## Some conclusions

From the total presentation the following conclusions can be drawn:

- a painting, more than a photograph, allows the artist to give an impression of the essence of a landscape, unless the photographs is "photoshopped";
- the degree of objectivity depends on the current artistic movement and the preference and skills of the painter;
- landscape details tend to disappear in modern movements such as expressionism and cubism;
- although dynamic storm clouds and turbulent waves are popular subjects in landscape painting because they add drama, painters with an eye for dynamic geomorphological processes in the landscape such as moving dunes and erosion features are relatively rare;
- painters show little interest in soils, however colourful.



*(Paper presented at the ProGEO Northern Europe meeting, September 2011 in Oslo)*

*An impression of a drift sand area by J.J. Meijer (1885-1970). Once this unique landscape covered a surface of 80.000 ha of which less than 1400 ha remain. By afforestation and atmospheric precipitation they have all but disappeared in other European coun-*

tries.

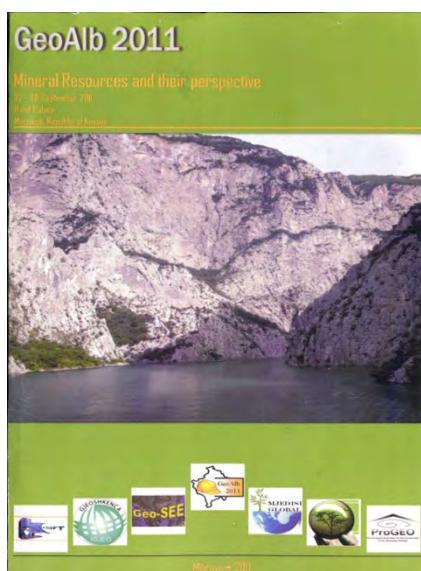
## GeoAlb 2011

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ProGEO-Kosovo in cooperation with X-Soft, Global Environment, Geo-Science Institute of Albania, Jieas have. GEOSCIENCE organized First International Conference "GeoAlb 2011 - Mineral Resources and Their perspective". The conference was held 27-30 September in the Republic of Kosovo Mitrovica. More than 100 papers were presented with important results of scientific research.

The conference was organized in 10 sessions: (1) Minerals deposits and Oil, (2) Engineering Geology, (3) Hydrogeology and Hydrology, (4) Geoinformatic and Computer Science, (5) Geology and Mines, (6) Environmental Geology, (7) Geometalurgy, (8) Environmental Engineering, (9) Geoheritage and Geotourism, (10) Others. Geo Alb 2011 objectives was to provide international organizations with scientific results within all these fields.

It is worth to note the high participation of members of ProGEO-Kosovo-Albania, who contributed to raise awareness of geoheritage values of both countries but also the participants from other countries such as: Germany, France, Bulgaria etc. The conference gave a good media coverage and was the subject of much interest in academic and scientific institutions. The materials from the conference are published in a book. The conference was a major achievement for ProGEO-Kosovo as a co-organizer.



## The Volcandpark Congress 21-25th of May 2012

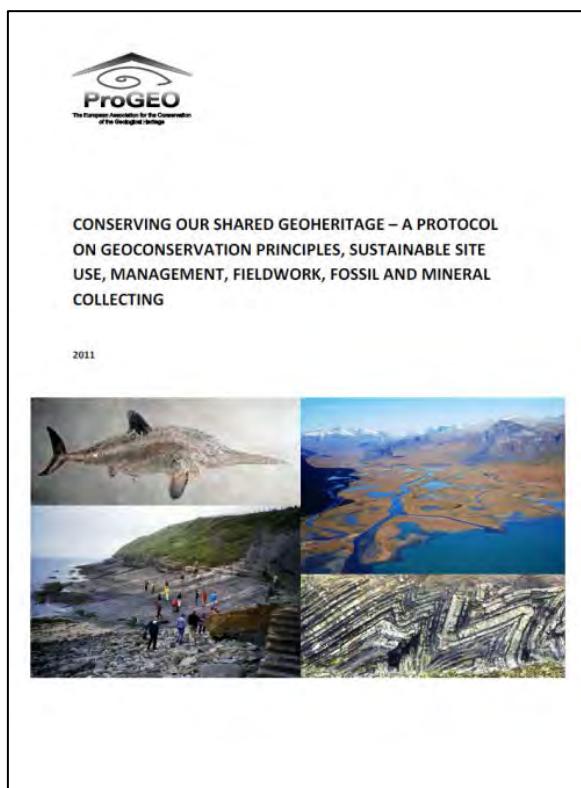
*Anna Ros, [info@volcandpark1.com](mailto:info@volcandpark1.com)*

VOLCANDPARK is the first congress to be devoted to the management, the raising of awareness and geotourism in protected volcanic areas. It aims to act as a forum for debate and thought that will provide a link between knowledge of vulcanology and territorial planning and awareness in the people who work in these volcanic landscapes (national and natural parks, natural reserves, etc.).

The Congress will take place in Olot (Spain), a town lying wholly within La Garrotxa Volcanic Zone Natural Park, and will be organized jointly by this protected area ([www.gencat.cat/parcs/garrotxa](http://www.gencat.cat/parcs/garrotxa)), the Catalan government's Ministry of Agriculture, Livestock, Fisheries, Food and the Natural Environment, Olot City Council ([www.turismeolot.com](http://www.turismeolot.com)), the Institute of Earth Sciences Jaume Almera (IJA) of the Spanish National Research Council (CSIC) ([www.ija.csic.es](http://www.ija.csic.es)) and the Geological Institute of Catalonia ([www.igc.cat/](http://www.igc.cat/)), and is backed by the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) ([www.iavcei.org](http://www.iavcei.org)).

During the five days of Volcandpark the following topics will be discussed: the management of protected volcanic areas, environmental education on volcanic areas; geotourism, visitor management and volcano-related risk; communication and dissemination of information.

More information on <http://www.volcandpark1.com>



Download the protocol from:  
[www.progeo.se](http://www.progeo.se) !

## Deadline next issue of ProGEO NEWS: Desember 10<sup>th</sup> 2011

Please do not forget to send contributions to ProGEO NEWS. Members are interested in things that happen all over the world, your experiences, geosites, everyday geotopes and landscapes, geoconservation and geotourism efforts! ProGEO news is published on the internet after ½ year:

[www.progeo.se](http://www.progeo.se)

Please send your contributions 500 – 2000 words with photographs, maps and figures to:

[lars.erikstad@nina.no](mailto:lars.erikstad@nina.no)

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