



*The Kvitskriuprestin Natural Monument, Norway (Photo: Lars Erikstad)*

## **Protection and management of finite nature resources representing active geoprocesses**

### **Case: Kvitskriuprestin natural monument, Norway**

*Lars Erikstad, [lars.erikstad@nina.no](mailto:lars.erikstad@nina.no)*

"The white priests" (Kvitskriuprestin) in the Gudbrandsdalen valley, central south Norway is a small group of earth pyramids protected by law as a natural monument in 1977. The natural monument includes areas both uphill and downhill from the earth pyramids, totally 3,4 ha. It has for a long time been a major tourist at-

traction in the district of Northern Gudbrandsdalen and are visited by many people every summer. A web search on the name: "Kvitskriuprestin", clearly document the international element of the attraction.

The aim of the legal protection is to "conserve a group of well developed earth pyramids as an example of soil erosion which is rare in North-Europe".

In this area of Norway it is common with significant till accumulations in the tributary valleys. In places these deposits are eroded and form locally barren gullies and erosion cliffs. The tills are normally rather well consolidated and in places interstadial age of deposits are documented.



*Lateral erosion undermining the largest pyramid complex.  
Photo: Lars Erikstad*

The earth pyramids are formed by ongoing erosion and are linked to the intrinsic qualities of the till (relatively consolidated and with larger stones that forms roofs over the pyramids). The visual impression of the “priests” is accentuated by the light colour (almost white) of the till.

It is important to note that the conservation aim is linked to an active erosion process. This process do form the earth pyramids, but is the very same that will in due time destroy them. In this way the protection status as a natural monument, normally used on more static phenomena may be discussed. This is not however the main issue here. The question is how the

management should protect the “priests” with respect to the process that forms them and will destroy them.

The most important issue for the management is the speed of the erosion process, if new pyramids are constantly being formed, if it is present human influence that increases the speed of erosion and if it is possible to find mitigation measures. An important question is if it is possible to find alternative sites that demonstrate the same process. These may act as a replacement for Kvitskriuprestin when the protected area no longer is able to produce earth pyramids.

15 years ago some of the biggest earth pyramids in the area collapsed. It was then documented that a part of the reason for this collapse was a somewhat increased runoff linked to the visiting pressure in the area. It was introduced measures that should mitigate this effect.

What can be seen today is a major undermining of the largest pyramid complex linked to the runoff pattern of the area. A part of this can be explained by the previous measures described above, and which needs maintenance, but part of the problem is normal drainage down the gully, with a lateral erosion effect.

New pyramids are still being formed. Due to the thickness of the till and the terrain, new pyramids will not be nearly as big and impressive as the ones this site is so well known for. This means that when the largest complex of earth pyramids falls, the area will lose a large part of its public appeal as a tourist attraction, even if its value as a reference area for this kind of erosion is still present.

The high amount of visitors to the area represents a challenge in preventing unwanted erosion that can accelerate the destruction of the pyramids. Unwanted public activity within and under the pyramids represents also a security risk. This is a task that the management is well aware of and which is being dealt with.

Even with the rate of erosion as an uncertain main element in the management it seems clear that this pyramid area will have a very limited life as a main tourist attraction. The management should therefore in their dissemination of the conservation values focus more of the reference value of the area and the process as such. In this respect more knowledge should be available from the area and measures to increase research in the area should be given priority.

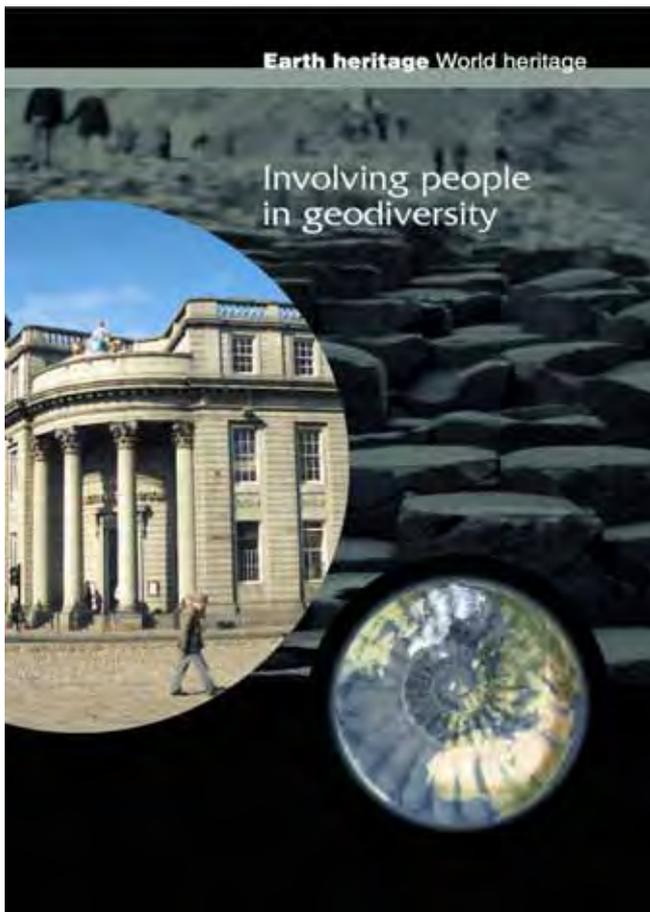
It is also important to see if alternative sites in the area should be conserved. No direct alternatives are available, but several sites with comparable erosion processes and features exist and may be of importance for the future management.

This case underlines the importance to clarify conservation aim and management strategies when protecting active processes. The need to locally preserve a tourist attraction like this may well be in conflict with the scientific conservation value linked to the process. Lack of clarification may cause severe management problems. The debate of management strategies has the potential to interest local people and as such the area may still play an important role in promoting geo-conservation in Norway.



I Skåbu har ein eit liknande fenomen, men desse pyramidane mangler stort sett dei karakteristiske steinhattane og forvitrer difor snøggare.

Earth pyramids in Skåbu just south of Kvitskriuprestin. From [www.otta2000.com](http://www.otta2000.com).



## 'Involving People in Geodiversity' booklet available

Emma Durham, JNCC

As a follow-up to the successful 'Earth heritage: World heritage' conference hosted by JNCC in Dorset in September 2004, a short booklet, entitled 'Involving People in Geodiversity' has recently been published by JNCC and English Nature.

The booklet provides a summary of the discussions and conclusions of a two-day workshop held to mark the end of the conference, organised by English Nature, Dorset County Council and JNCC. The workshop addressed ways of promoting geodiversity and geological conservation, and provided delegates with the opportunity to share their experiences through the presentation and discussion of case studies and examples, and to recommend successful strategies to involve people in geodiversity. Delegates attending the workshop included those involved in the management and promotion of geological sites, those working to promote the importance of geodiversity through education and interpretation initiatives, those interested in

raising the profile of geoconservation, and those looking at ways to identify and make use of the links between cultural and geological diversity.

The case studies and discussions demonstrated that much innovation is being used to interest and involve people in geodiversity, and that the audience can include everybody, from the general public, children, families, schools and local communities, to land owners, hotel managers, local councillors and politicians. To make geodiversity appealing it needs to be interesting, relevant and accessible, and this requires a good story, good funding, good staff and enthusiasm. Different approaches are also required, not just for different sites, but for different audiences.

Further information can be found in the 'Involving People in Geodiversity' booklet. Aimed at a wide audience, from the policy maker to the general public, the booklet provides practical examples to help those interested in involving people in geodiversity.

Copies of the booklet can be obtained by contacting [GeoConference@jncc.gov.uk](mailto:GeoConference@jncc.gov.uk), and details of the workshop can be found at: <http://www.geoconservation.com/EHWH/Conference/IPG.htm>



## Danish GEOSITES on the net!

Erik Nygaard, [eny@geus.dk](mailto:eny@geus.dk)

This is to inform you that the status and progress of the description of Danish GeoSite candidates may now be seen and followed on the web: [www.geosites.dk](http://www.geosites.dk).

We have chosen this way of exposure in an attempt to push for contributions.

Danish GeoSite candidates will be the theme of the "Days of Geology" in September 2006, for which occasion the descriptions should be complete.

## A membership reminder

*Sven Lundqvist, Treasurer*

Dear ProGEO members and friends, I hope the year has started off well for all of you. In the coming months a lot of interesting and important work is in front of us, for example financial work with budget and policy, our meeting in Kyiv, regional WG-meetings and also non-ProGEO-arranged activities like European Geoparks and International Year of Planet Earth.

It is already March and I must strongly urge you - and especially the National Contacts - to arrange for and to pay the membership/subscription fee. Very few individual members have paid so far (a few countries have, though, informed me of intentions to pay).

Please be informed that in order to make a budget, to set up a financial policy and to set up some kind of support policy, membership payments (or message of intentions to pay) has to be done. Our budget is based on the fees.

A payment encouragement was sent out to all National contacts, together with ProGEO Newsletter 4/2005, where all necessary information is found. Please contact your National Representative if you have not received it.

Membership fees:

**Individual membership: €25**

**Institutional membership: €150.**

(Members from many former Soviet countries are currently exempted from payment or may pay full or reduced subscriptions if they so wish. Please contact the Treasurer for details).

**Payment to ProGEO should be transferred to**

**IBAN: SE81 8000 0838 1697 3296 5174**

**Swiftcode: SWEDSESS**

Please also remember to state your **name** and **member year**.

If additional information is required, the address is:  
SWEDBANK,  
SE-105 34 Stockholm

## Note from the webmaster.

*Sven Lundqvist, webmaster*

In February I have made corrections on the web site concerning missing links, pictures that do not appear and other obvious errors. Now, hopefully, are all the issues of our Newsletter in working order. In March I will continue the work and start looking at the construction behind the layout.

**I also have had the pleasure to do the pages of the presentation of ProGEO Working Group No. 2, Central Europe. Please visit the web site and read the contribution from WG2.**

Please also consider the usual reminder, that you are the ones that do the contributions to the web site. Please let me know if anything should be added, changed or deleted.

## International Year of Planet Earth

*From IUGS*

Dear Colleague,

It is my great pleasure to announce that the General Assembly of the United Nations, at its Plenary Session of 22<sup>nd</sup> of December 2005, proclaimed 2008 as the UN Year of Planet Earth by consensus. This UN Year is the core year of the 2007-2009 triennium during which the International Year of Planet Earth (Earth Science for Society) will operate. This will be the first ever UN Year for the Earth Sciences.

**The Press Release issued by the UN, is reproduced below.**

*"By a draft on the International Year of Planet Earth, 2008, which the Committee approved without a vote on 11 November, the Assembly would declare 2008 the International Year of Planet Earth. It would also designate the United Nations Educational, Scientific and Cultural Organization (UNESCO) to organize activities to be undertaken during the Year, in collaboration with UNEP and other relevant United Nations bodies, the International Union of Geological Sciences and other Earth sciences societies and groups throughout the world. Also by that draft, the Assembly would encourage Member States, the United Nations system and other actors to use the Year to increase awareness of the importance of Earth sciences in achieving sustainable development and promoting local, national, regional and international action."*

The International Year of Planet Earth aims to demonstrate the great achievements made in the geosciences and to urge politicians and decision-makers to apply such knowledge for the benefit of humankind. Now that this IUGS and UNESCO initiative has collected the political support of 191 UN member countries, our fund-raising campaign will begin with approaches to a broad sweep of the private sector including extraction industries, governments, foundations, insurance companies, banks *et cetera*.

The International Year of Planet Earth will soon be incorporated as a legal entity with tax exempt status for donations. It will consist of a Board of Stakeholders (IUGS, UNESCO, Chairs of the Outreach, Science and Development Committees, Founding Partners, Sponsors, donors and regional representatives) and a Secretariat.

The Secretariat will be outsourced, and the call for proposals will be open until 15<sup>th</sup> of April 2006. We invite all professional geoscientific and other qualified bodies to consider hosting the International Year's Secretariat. For more details, please go to the Year's website: [www.yearofplanetearth.org](http://www.yearofplanetearth.org).

National implementation of the Year of Planet Earth is essential for its success. We kindly invite all of you to approach your national IUGS representative, UNESCO Commission or any other relevant geoscience body in your country to start preparations for your own national Year of Planet Earth in connection and cooperation with the International Year's Secretariat. For that purpose you may wish to select 2007, 2008 or 2009, as best suits your national needs. As the preparation for UN proclamation and promotion of the International Year has been the joint responsibility of IUGS and UNESCO and of the Founding Partners, we propose that representatives of these bodies be included in your National Committee. In order to maximize advantages to be gained from the International activities and the services provided by the international Secretariat of the Year's Corporation, as well as adding an international dimension and outreach component to your national activities, we propose to formalize such relations through written agreements. Suggestions for developing national committees for the Year of Planet Earth can be downloaded from the Year's website: [www.yearofplanetearth.org](http://www.yearofplanetearth.org).

Calls are open now for submitting *international* project proposals on the outreach programme and on selected science themes. Again, please go to our website for downloading Expression of Interest forms and submit these to the (IUGS) Secretariat.

Finally, I invite you to 'spread the word' about this major global event in the history of the Earth Sciences;

never before have all nations of the world explicitly invited our geoscience communities to convey their knowledge to society with a view to having decision-makers and governments make use of that knowledge for the benefit of all humankind. Let us work hard together to ensure that this unique triennium will be the greatest (geo)show on Earth!

With my kind regards

Eduardo F.J. de Mulder  
Chair of the Management Team of the International Year of Planet Earth  
Past-President IUGS

## Meetings in 2006

2006 seems to be a busy year. ProGEO NEWS has received information about four main events within geoconservation. Three ProGEO meetings are on the agenda. This is the Northern working groups meeting in Lithuania and the **Balkan working group meeting in Sarajevo** in May and our main meeting in Ukraine in September. In addition two main events concerning Geoparks, one in may in China and one in Northern Ireland in September.

In the following information about these events are listed with the hope that as many ProGEO members as possible has the opportunity to attend at least some of the meetings!






**International Conference**  
**“GEOHERITAGE FOR SUSTAINABLE DEVELOPMENT”**  
**May 27–31, 2006, Druskininkai, Lithuania**



**Conference will be held in Druskininkai (South Lithuania)**

The Conference Venue – **Hotel DRUSKININKAI**  
[www.hotel-druskininkai](http://www.hotel-druskininkai)

## CONFERENCE AIMS:

to promote better understanding of geological heritage in Northern Europe and to aim at a increasing level of awareness concerning geological knowledge and related problems in society

to promote best practice on such matters as inventory, on-site management, planning, development of geo-tourism, etc.

to strengthen trans-boundary co-operation and promote initiatives in application of elements of the geological heritage in the sustainable development

All participants are welcome to submit their presentations in oral and poster form. Extended abstracts and papers (up to 3 pages preferably including figures and references) of presentations will be collected and published in the volume of Conference materials.

Deadline for abstracts submission is April 15, 2006.

Official Conference language is English. Participation will be based on registration and payment of the Confer-

ence fee. Conference fee is 120 EURO which includes transportation from Vilnius to Druskininkai and back, ice break party and Conference Dinner, two days field trips, Conference materials, coffee breaks, lunches during sessions and field trips.

Limited financial support will be available and provided for participants requiring it.

Contact: Jonas Satkūnas: [jonas.satkunas@igt.lt](mailto:jonas.satkunas@igt.lt)

and /or Alma Grigienė: [alma.grigiene@igt.lt](mailto:alma.grigiene@igt.lt)

## THE 1ST INTERNATIONAL SYMPOSIUM ON DEVELOPMENT WITHIN GEOPARKS: SCIENCE AND MANAGEMENT

May 15-18, 2006

The First International Symposium on Development within Geoparks: Science and Management is going to be held in Jiaozuo City of Henan Province, China in May 2006. We warmly welcome your participation. Please find the Circular of the Symposium and download necessary forms in the following website : <http://www.geosee.net/Geoparks/default.htm>

## Main Topics

- (1) Scientific Support of World Geoparks: Academic Research
- (2) Public Awareness of World Geoparks
- (3) Protection and Construction of World Geoparks' Ecological Environment
- (4) Technology of Geological Heritage and Cultural Heritage Protection
- (5) Management and Operation of World Geoparks

## ProGEO Symposium 2006

The meeting in Ukraine will be held under the leadership of Prof. Volodymyr Gritshenko and the national ProGEO group. Colleagues in Ukraine are at present discussing dates for 2006.

See last issue of ProGEO news for the first information! More information will be available soon. It will be announced on our website

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



## “CELEBRATING EARTH HERITAGE, SUSTAINING LOCAL COMMUNITIES”

The Organising Committee, on behalf of the Geological Survey of Northern Ireland, Fermanagh District Council and the European Geoparks Network cordially invites you to participate in the professional and social programme of the Second UNESCO International Conference on Geoparks. The conference will take place at the Waterfront Hall in Belfast, Northern Ireland from September 17 – 21, 2006 and will be preceded and succeeded by a series of excursions. The main aims of the conference are:

- To reflect on the growing development of the GEOPARK initiative across the world and to celebrate Earth Heritage.
- To discuss mechanisms that will ensure the continued growth of the initiative and the strengthening of the Global Geoparks Network
- To examine how links between geoscientists and the tourism industry can enhance the sustainable economic development of GEOPARKS
- To discuss the economic benefit of GEOPARKS to sustaining local communities

These four aims will be reflected in the ten themes to which contributions (oral and poster) are invited. These themes are as follows:

- Geoparks: The Economic Benefits
- Geoparks and their role in the protection of geological heritage
- Marketing geological heritage to the public

- How to make a successful geopark
- Geoparks and Tourism
- Geoparks and geosites: a twin-tracked approach to geological heritage
- Geoparks and public outreach
- Presentation of new and aspiring geoparks
- Integrating geodiversity into national park conservation policy
- Geoparks: Future direction and vision

For further information and to register for the conference, please visit our event website

[www.geoparks2006.com](http://www.geoparks2006.com)

There is currently an early bird discounted rate of £200.00 being offered to those delegates who register and pay on or before 30th April 2006.

## The Balkan – a jewel geoplac in Europe 22-28 May 2006

This Conference is the first scientific gathering on geoheritage in Bosnia. After the first two days dedicated to presentation and discussion sessions, the scheduled activities of the Conference will continue with a series of field trips. At the end of the Conference, conclusions should be reached and recommendations made to Bosnian authorities on future geoheritage sites of Bosnia.

For more information contact: [gsijaric@pmf.unsa.ba](mailto:gsijaric@pmf.unsa.ba) or [momerbasic@pmf.unsa.ba](mailto:momerbasic@pmf.unsa.ba)

MULTIDISCIPLINARY INTERNATIONAL CONFERENCE  
ON EUROPEAN GEOHERITAGE INTEGRATION



**"ProGEO-SARAJEVO 2006"**  
(Joint with 11<sup>th</sup> ProGEO-WG1 annual meeting)

2<sup>nd</sup> CALL FOR ABSTRACTS

TITLE: *The Balkans – a jewel geoplac of Europe*

WHERE: Sarajevo, Bosnia-Herzegovina

WHEN: 22 – 28 May 2006

ABSTRACT DEADLINE: 15 April 2006

SESSION TITLES: 1. Integration of Europe's geoheritage and environment protection efforts  
2. Present state and prospective of the Balkans Framework List  
3. Education for successful geoheritage protection  
4. Multidisciplinary approaches to geoheritage protection

Deadline for the next issue of ProGEO NEWS: 1.6.2006



*Basalt lavas in front of the volcano Teide on Tenerife, Spain within the Canadas del Teide National Park.*

*Only a few hours away from the tourist machines, the beaches and the tourist crowds we can find the most beautiful geotopes. The use of geotopes for common experience, teaching and tourism within the framework of sustainable development, but should not be forgotten as a general issue within all conservation management. Photo: Lars Erikstad.*

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