

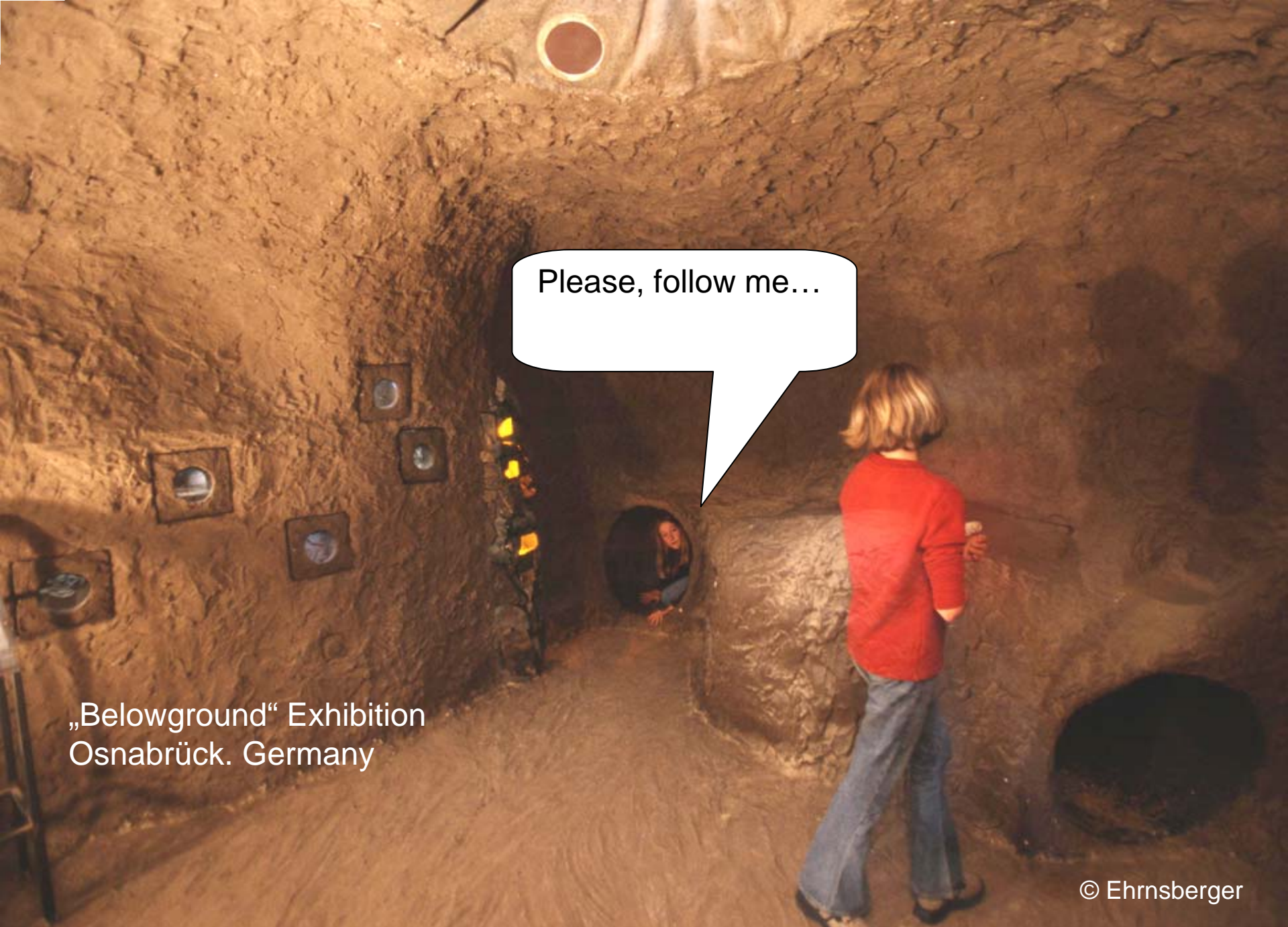
Soil Awareness and Education

Gabriele Broll

University of Vechta/Osnabrück, Germany

German Soil Association / Bundesverband Boden





Please, follow me...

„Belowground“ Exhibition
Osnabrück. Germany

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Ispra 26.05.2009



Target group: Young children

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Ispra 26.05.2009

Target group: Young children

- **Motivation**
- **Excitement**
- **Fun**
- **Direct contact, learning by doing**



Experiments are fun!



© Geyer



Soil Biodiversity from another point of view



© Kursat, 8 years



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Ispra 26.05.2009

Soil biodiversity of another point of view



© Kursat, 8 years



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Target group: children

- **Living organisms are excellent objects for motivation.**
- **Organisms can be used to talk about related soil topics:**

**for example: earthworms > soil
organic matter > threat: loss of OM**



Look for the fantasy of the children

- > Earthworm burrows and aeration



„Concepts“ about soil

9-11
years

'Trees grow in soil.
They produce oxygen for
humans and animals.'

7-9
years

'Plants grow
in the soil!'

'In soil I can find
earthworms which I need
to angel fishes!'

'In soil there
is seed.'

'Without soil, there
is only a big hole...'

'Foxes
live in caves in
the soil.'

'...and my ball
will not jump back!'

4-7
years

'Trees grow
on soil.'

'Without soil,
we will tumble down...'



Keep in mind

- **Children have their own fantasy.**

- **Find out their way of thinking !**

And

- > **Make it simple!**



Soil protection and soil organisms

Example: Sealing

© Ehrmann



Movies for Kids in the TV





unter.Welten



70 000- 100 000
visitors / year

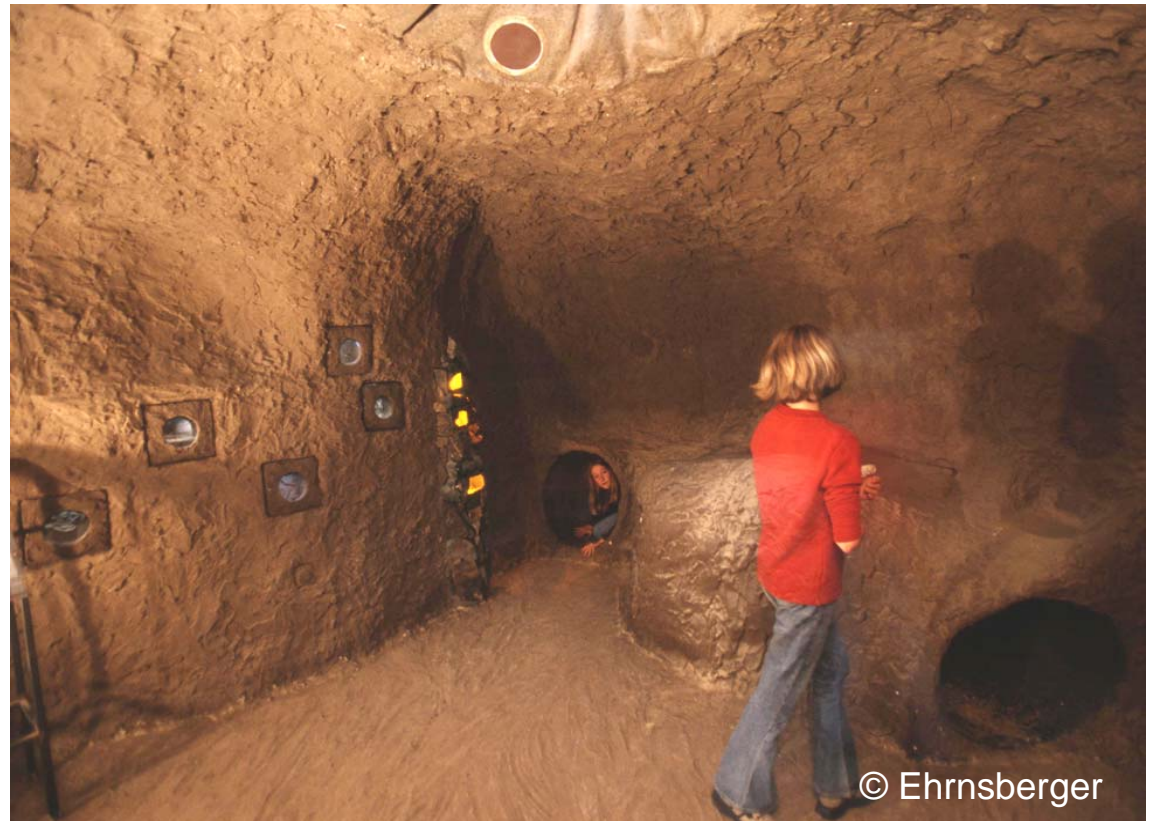
Target Groups:
Families

New Exhibition with
living animals

Sunday, 11.4.09: 5000

Tuesday, 15.4.09: 4000

Target Group
reached? **Yes!**



<http://www.museum-am-schoelerberg.de/>



Soil Topics in Schools

- **Traditionally in Geography, but almost no Physical Geography anymore**
- **Possibility to include it in Chemistry, Physics and Biology**
- **Initiative of Geologists to implement modules on geo science**

Soil Topics in Schools

- **Traditionally in Geography, but almost no Physical Geography anymore**
 - **Possibility to include it in Chemistry, Physics and Biology**
 - **Initiative of Geologists to implement modules on geo science**
-
- **Very difficult to bring soil topics into the curricula.**
 - **Out-of-school learning sites**
 - **Teaching teachers**
 - **Work together with school book authors, check already existing material in school books and try to work together with them on better school books**



**Work together with scientists
who are specialists in
didactics
and produce material which is
really used in school**

**Evaluation is needed.
A lot of material was produced
but nobody used it!**



Combination of soil information with other topics

Geest

Sandige Landschaft und Trinkwasserreservoir

gestaltet durch Wasser, Wind und den Einfluss des Menschen



<http://www.bakenhus.de/oowv/Geest.htm>



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Standards for soil topics in education in Europe

Karin Geyer – Hans-Jörg Brauckmann – Gabriele Broll



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Target groups: old children and adults

- **Exciting pictures, movies**
- > emotion !**



Protozoa



© Ehrmann



Work together with marketing experts!





Work together with marketing experts!

The message should be:

1. Soil is fascinating.

Soil is simple.

Soil is nice looking.

2. Soil is „working“ for all of us.



Work together with marketing experts!

The message should be:

1. Soil is fascinating.

Soil is simple.

Soil is nice looking.

2. Soil is „working“ for all of us.

Outcome hopefully will be:

> I like soil.

> Soil should be protected.



Good marketing idea but Where are the soil organisms?





Soil and education in Germany

1. German Soil Science Society (DBG)
Working Group „Soil in education and society“
2. German Soil Association
(= Bundesverband Boden = BVB)
Section 5: „Career and education“
1. and 2. work together closely
www.bodenwelten.de
3. Geo-Union incl. Geological Science Society
Section „Geo-didactic“ together with the Association of
Geography Teachers

CD including all media on soil education which is available in Germany and could be used in school

MEDIENKATALOG BODEN

zur Einführung bodenkundlicher Inhalte in den schulischen Unterricht

MEDIENKATALOG ZUR EINFÜHRUNG BODENKUNDLICHER INHALTE IN DEN SCHULISCHEN UNTERRICHT

Kathrin Böhme & Klaus Mueller

Demo-Version

Mit freundlicher Unterstützung der



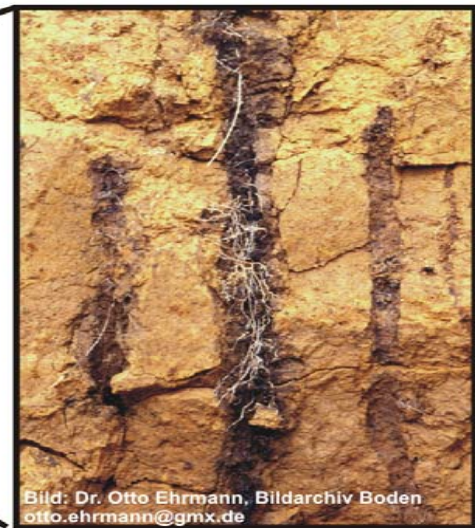
rentenbank



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Outreach activities like „Soil of the year“ Evaluation needed



Boden des Jahres 2005: **Schwarzerde**
Kuratorium Boden des Jahres (frielinghaus@zalf.de)
Deutsche Bodenkundliche Gesellschaft
Bundesverband Boden



Soil(s) of the year 2010: Urban soils



Soil(s) of the year 2010: Urban soils

**In case you would like to raise
awareness on soils**

„forget“ about soil genesis !



Soil Science in the University in Germany

- **Soil science degree in two universities**
 - University of Hohenheim (SW-Germany)
 - Applied University of Osnabrück (NW-Germany)
- **Soil science modules are included in agronomy, forestry, geology, engineering etc.**

www.orientierung-bodenwissenschaften.de



Research needs

**Research on how to raise awareness
on soils and related research**

**Not only outreach activities, production
of education materials etc.**



Research needs

Research on how to raise awareness on soils and related research

Not only outreach activities, production of education materials etc.

It is necessary to distinguish between research and outreach/education.

In case you would like to encourage other soil scientists to be active in this field we need more peer-reviewed journals related to soil and education.



European Network on Soil Awareness ENSA

The discussion on a European Network on Soil Awareness was initiated as part of the **“Education in Soil Science and Raising Public Awareness”** symposium at the Eurosoil Conference in Vienna in August **2008**.

Colleagues from 14 European countries (Austria, Belgium, Bosnia and Herzegovina, Czech Republic, Finland, France, Germany, Great Britain, Ireland, Italy, Poland, Slovenia, Switzerland, The Netherlands) as well as from the USA and Canada attended the discussion.



Results of the discussion at Eurosoil

- **As a first step the participants agreed on a European Network on Soil Awareness with the aim of bringing people together to work on soils.**

This would include people, such as administrators, consultants, scientists, people working in education or for non-governmental organizations who are interested in working on outreach and/or education on soils and in sharing their knowledge with colleagues within Europe.

Results of the discussion at Eurosoil

- **The European Network does not compete with national activities.**

We need strong activities on all scales, at local and regional scales working together with target groups like teachers, for example. At national and international scales, we could share ideas on how to bring forward soil protection in Europe.



Results of the discussion at Eurosoil

- **Close cooperation with the EU and the IUSS as well as with national ministries is intended.**
- **The Eurosoil conferences can be used to organise special symposiums and meetings of the people involved in outreach and education activities. Moreover, national meetings and meetings at the Eurosoil and IUSS conferences provide opportunities to exchange ideas.**

Results of the discussion at Eurosoil

An internet platform run by ELSA (European Land and Soil Alliance, www.soil-alliance.org), located in Osnabrueck, Germany, can be used for exchange of information etc. and can act as “umbrella” for national websites.



Results of the discussion at Eurosoil

ELSA is dependent on memberships of communities or other administrative districts to finance outreach activities.

Members of the ENSA network could help to motivate more communities of their own country to become a member of ELSA.

This would help to run the internet platform even better and thus would also help ENSA (win-win-situation).



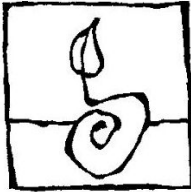
European Network on Soil Awareness – ENSA

ELSA e.V.



European Land &
Soil Alliance

Boden



Bundesverband

Conference 2009
Museum am Schölerberg, Osnabrück (Germany),
27- 29 September 2009



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Sunday, September 27th, 2009

19:00 – 20:30

Sightseeing Tour “Old town of Osnabrück”

20:30

Icebreaker (Brewery Rampendahl)



Monday, September 28th, 2009

9:30 – 11:00	“underworld – the universe under our feet” (Germany´s only permanent interactive soil exhibition)
13:00 – 13:30	Welcome
13:30 – 15:00	Opening Addresses
13:30 – 13:45	Boris Pistorius, Lord Mayor of the Host City Osnabrück
13:45 – 14:00	Fritz Brickwedde, Secretary General of the DBU (German Environmental Foundation)
14:00 – 14:15	Christian Steiner, Chair of the ELSA
14:15 – 14:30	Gabriele Broll, President of the BVB (Bundesverband Boden, German Soil Association)
14:30 – 14:45	Karl Friedrich Falkenberg, to be confirmed Director General, DG Environment, European Commission
14:45 – 15:00	Stephen Nortcliff, Secretary General of the IUSS (International Union of Soil Science)



Monday, September 28th, 2009

15:30 – 17:00 **Activities to raise soil awareness in different countries of Europe**

15:30 – 15:50	Austria
15:50 – 16:10	Germany
16:10 - 16:30	The Netherlands
16:30 – 17:00	Discussion

17:00 – 18:30 **“underworld – the universe under our feet”**
(Germany´s only permanent interactive soil exhibition)

Poster session

18:30 **Buffet Dinner in the Museum am Schölerberg**



Tuesday, September 29th, 2009

9:00 – 10:00 **EU activities on soil awareness**

9:00 – 9:20 EU activities on soil awareness

Luca Montanarella & Arwyn Jones

Joint Research Centre (JRC), Institute for Environment and
Sustainability, European Commission

9:20 – 9:40 Tasks of the ESNB Working Group and cooperation with ENSA

Rachel Creamer

Chair of the Working Group on Soil Awareness and Education of the
European Soil Bureau Network (ESBN) at the JRC

9:40 – 10:00 Discussion



Tuesday, September 29th, 2009

10:30 – 11:00

European Network on Soil Awareness
Proposals – Where do we go from here?

11:00 – 12:00

Discussion in Working Groups

1. Education
2. Outreach
3. How to organize "Soil of the Year - Events"
4.

12:00 – 12:30

Break

12:30 – 13:00

Final Discussion and Closing



Many thanks!



**Hans-Jörg Brauckmann and Karin Geyer provided helpful comments,
thank you very much!**



