

Soil Awareness and Soil Protection in the Danube Region

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DANUBE ENVIRONMENT FORUM

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7th Environment Action Programme”*

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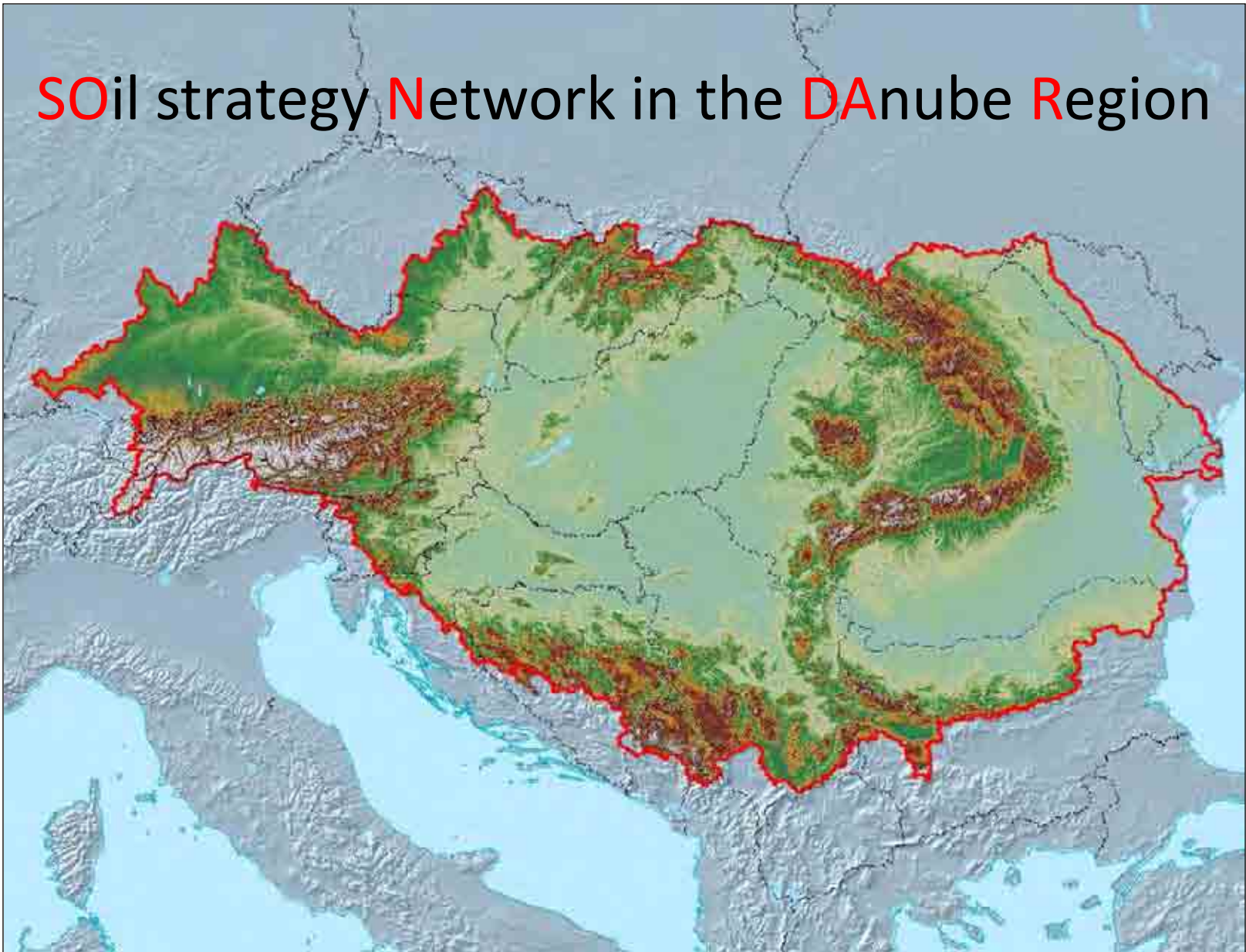
Soil Strategy Network

A Danube Basin Wide Initiative

**To Enhance Soil Awareness and Soil Protection
Priority Area 6 EU Strategy for the Danube Region**



SOil strategy Network in the DANube Region



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What is SONDAR?

- An interface between soil science and soil practice at the local and regional level throughout the Danube River Basin
- The transfer of soil knowledge to a general public that needs it and has not yet an appropriate level of awareness
- A network supported within the „ARGE Donauländer“ of regions and provinces along the Danube River.
 - <http://www.argedonau.at/neu/index.htm>
- Supports the Danube Strategy of the EU with particular concern of Activity 6 that explicit mentions „soils“
 - http://www.oerok.gv.at/fileadmin/Bilder/2.Reiter-Raum_u_Region/4.Europ-Raumentwicklung/Makroregionen/EUSDR/Docs/2010-12_EUSDR_Communication_EN.pdf

How does SONDAR work?

- Builds on long established contacts of soil and environmental scientists within the Danube region.
- SONDAR rises soil awareness through out the region
 - E.g. with projects like „Colors of the Earth“ where school children paint with soil colors of their region
- Close cooperation with the European Land and Soil Alliance ELSA (established in 2001) and with ENSA (established in 2009)
- Since 2010 until 2015 three projects in the European Regional Development Fund
 - In total € 2 million for soil related projects including 18 partners
 - BIENE is the lead partner and coordinator of these activities



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A) Rising Soil Awareness with „Colors of the Earth“



Involve Teachers and Pupils: Colors of the Earth Project





Colors of the Earth Project makes pupils aware of soil functions: First action in Nufaru secondary school, May 2013

Second action: Train the teachers seminar (Hungarian teachers are introduced by artist in Mosonmagyaróvár, Feb. 2nd 2012)



Third action: Organize region wide competitions „With the colors of the Earth“ (Zahorska Ves, SK, June 1st, 2012)



B) Soil maps can indicate flood risks



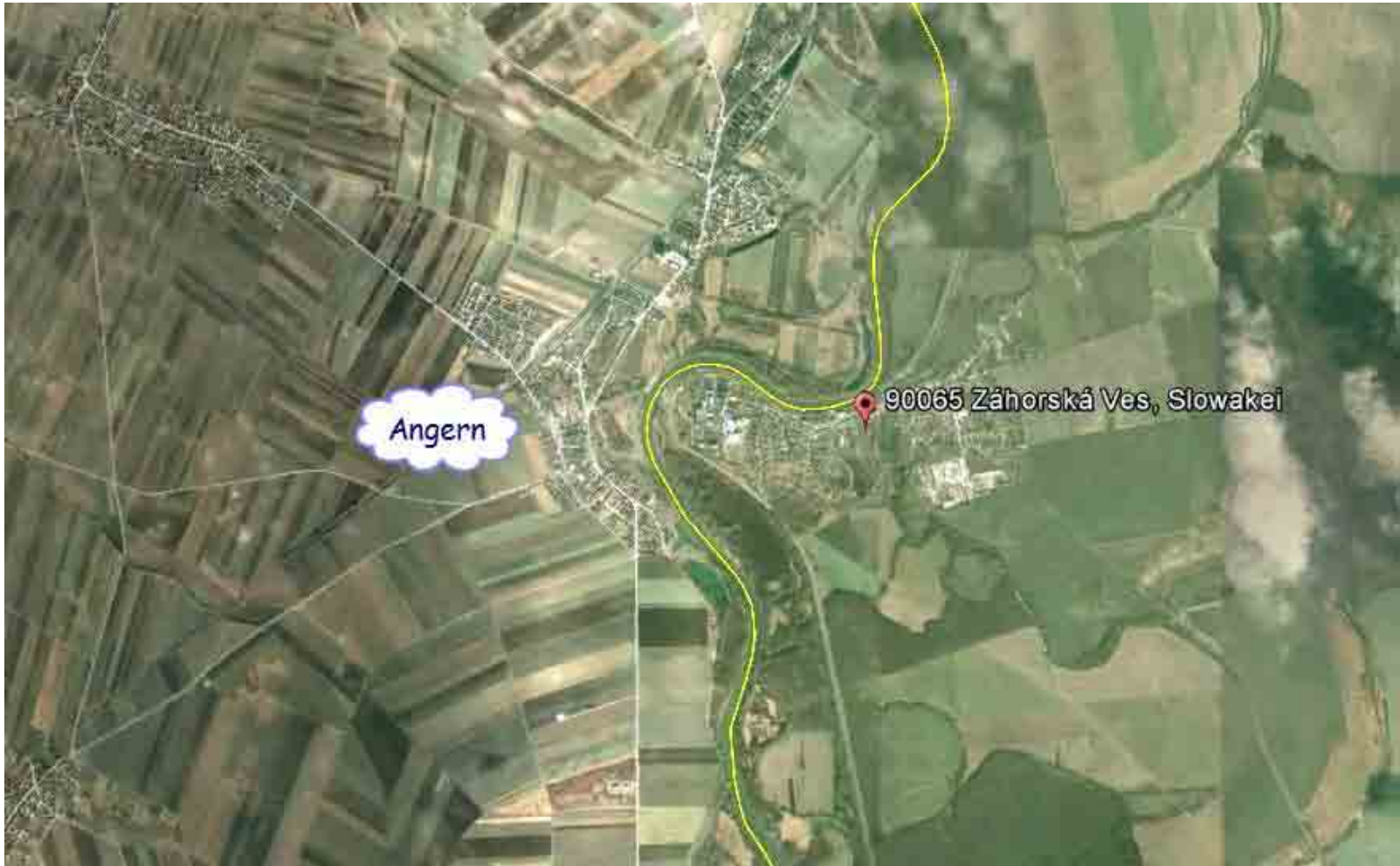
Soil as Indicator for Flood Occurrence

- A methodology based on the combination of soil profile analysis and soil maps was developed to assess flood risks
- The information of soil profile analysis is extracted by scientists to inform people having access to soil maps but no hazard zoning planning.
- Soil maps will become more important for local stakeholders in assessing flood risks.

The expected products: from science to public

- Risk maps
 - To indicate risks of floods based on soil maps
 - To allow prevention of flood natural hazards
 - To provide protection to the citizens and stakeholders
- Hand books
 - Training opportunities on how to use soil risk maps
 - Fire brigades & Rescue teams
 - Local NGOs
 - Planning divisions
- Train the trainers seminars

The Project Region: Angern - Zahorska Ves



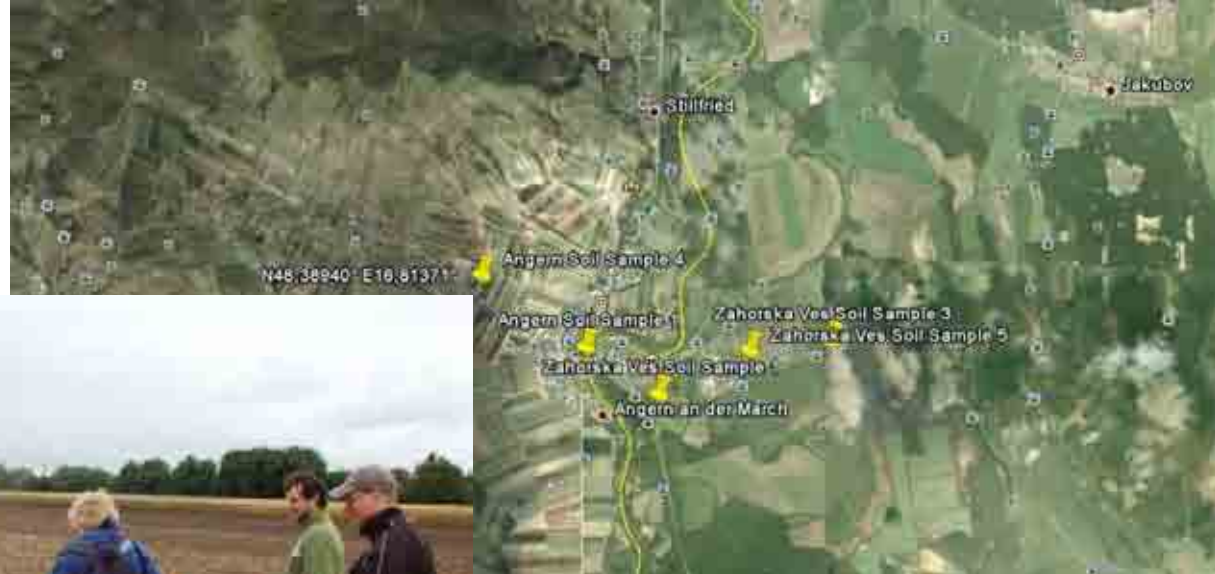
Assumptions and Method

- Fluvial sediments may indicate flood events during the last 1000 years
- In the soil profile these sediments are well diagnosed.
- In Morava river the last major floods were registered in 1996, 2002 and 2006
- Identifying of such areas could be made on the basis of soil units mapping (Fluvisols and Gleysols)

Fluvial sediments indicate floods



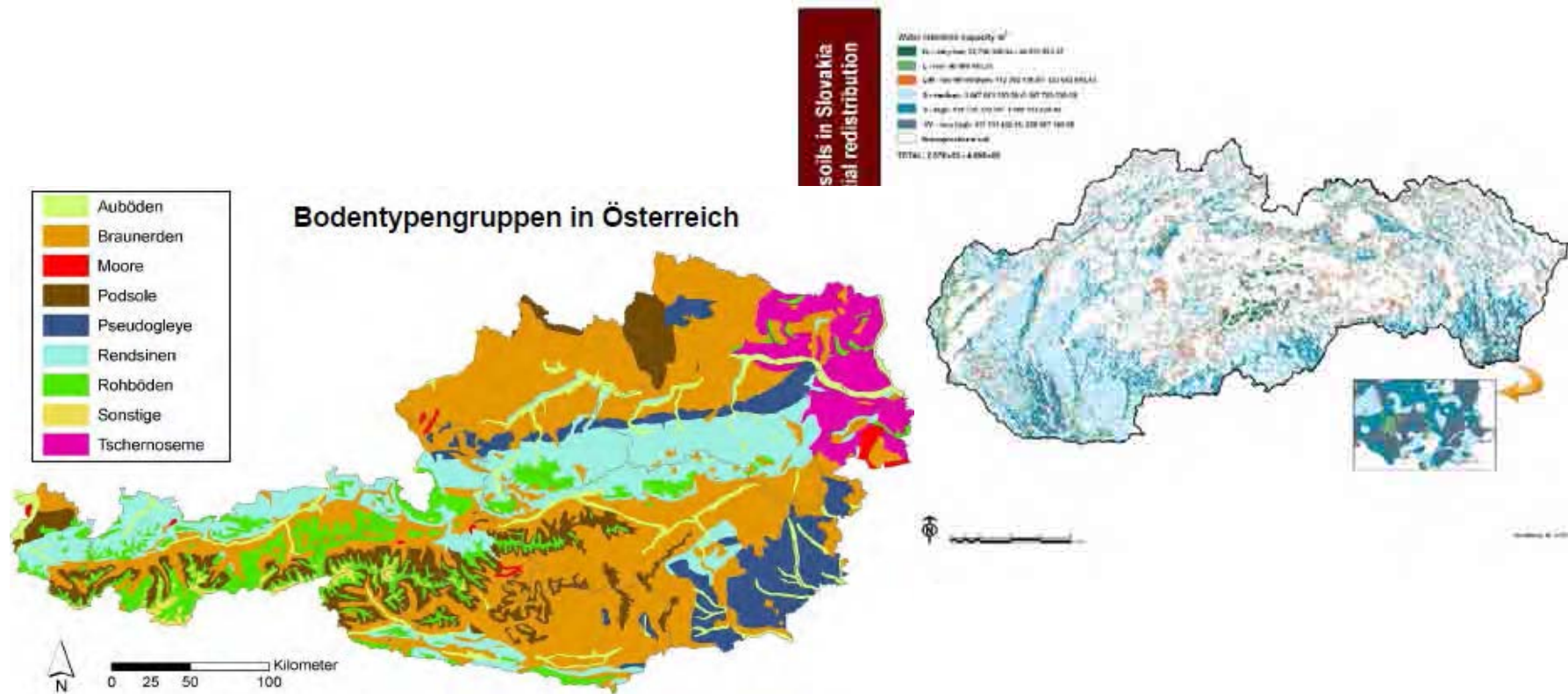
Taking soil samples in project area: 4 points of investigation in each country



Flood event of 2006 from the air



Special Task: Combining Soil Classification in Austria and Slovakia



Risk Maps in Project Area

- Generation of Project Region Maps „Soils Indicating Flood Risk“ (Work in progress)
 - Two kinds of floods
 - Surface water/river run-off flood influence on soil type
 - Ground water flood influence on soil type
 - Interaction of surface- and ground water system in relation to soil type
- Examination with experience of recent flood events
- Expert judgement on the weight of influence in relation to each soil type

Feed back to „history line“ in soil profiles

- Verificaitons needed (work in progress)
 - Indication of floods is not equal in each soil type
 - Soil profiles are disturbed in case of agricultural use.
 - Ground water influence has to be considered
 - Weighting of disturbances in relation to each soil type
- Each soil type will tell the history in a slightly modified way.

Evaluation of flood risks in larger region(s)

- The border area SK-AT along Morava River
 - will be analyzed with regard to flood risk based on soil maps
 - Zahorska Ves/Angern is a smaller part of this region
- The Danube River Basin (DRB)
 - In how far our findings can be used throughout the DRB?
 - An outlook for the regional use will be provided by the project
 - The project results should be verified at other regions in the DRB– this however is not subject of the project here.

C) Increasing Participation in Danube Region and Multiplication of Soil Projects



Wanted: New ELSA members!

- To undertake activities local support is needed
- The European Land and Soil Alliance enlarges the network in particular within the Danube Region
- Ideal case: municipalities as members
 - Direct influence on multiplier institutions
 - Schools
 - Fire brigades & voluntary associations
 - Local NGOs



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May 8th 2013 Nufaru Mayor Ion Danila supports future SONDAR projects



March 29th 2012, St. Pölten: Nufaru becomes first Romanian ELSA Member



May 22nd 2012, Nufaru: Local ceremony in Nufaru townhall



May 22nd 2012, Nufaru: Celebration of ELSA Family



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Thank you for your attention!



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