# **SONDAR: <u>SK-AT</u>** WP3: Soil – Water Interactions

### Jaroslava Sobocká and staff:

### RNDr. Michal Džatko, CSc., RNDr. Beata Houšková, CSc., Ing. Ján Hríbik, CSc., Mgr. Martin Saksa, PhD., Ing. Michal Sviček, CSc.

Soil Science and Conservation Research Institute Bratislava, Slovakia







# SONDAR SK-AT aims

- To Increase the Value of Soil: an appropriate awareness, combined with a good soil policy will lead to the provision of incentives to make soils more valuable.
- Austria and Slovakia has many experiences in soil protection and on soil monitoring
- Model projects "Interaction of soil and water" may served as demonstration examples in the elaboration of quantitative and qualitative soil conservation aspects of both regions





## WP3: soil - water interactions

- The premise: fluvial sediments may register for each flood event in the last 1000 years and in the soil profile in these sediments are well diagnosed.
- In Morava river were registered last major floods in 2002 and 2006. Identifying such areas is recognizable on the basis of soil units mapping (Fluvisols and Gleysols)
- Output: control and prevention of flood natural hazards and protection.





## WP3 outputs

- The project will develop risk maps for regions threatened by floods as well as a separate publication for the area.
- The actions will be focussed on training opportunities to protect areas of flooding, e.g. "Soil and Flood" to the proposal flood protection measures.
- As target groups will address mainly residents of municipalities, local governments and regional associations, voluntary organizations with priority protection areas (fire and rescue organizations, etc.)





# WP3 prerequisites

**Detailed maps and documents** at an appropriate scale:

- Soil types and subtypes maps (1:5,000)
- Map soil-ecological units (1:5,000)
- Remote sensing maps (orthophoto maps)
- Land use map (1:5,000)
- Digital terrain map (DTM) (1:5,000)
- Flooding zones for return periods (not yet available)
- Map of retention water capacity (1:5,000)





## **Cross-boundary model area**

**Two model area alternatives:** 

- Moravský Ján Hohenau
- Záhorská Ves Angern an der March
- Reasons for this choice: closer to availability, possible assessment of the historical context of flooding events, good contacts with local authorities.





































#### Soil types and soil subtypes of Zahorska Ves cadastre

#### Legend:

according to: World Reference Base for Soil Resources, 2006 (updated version 2007) haFL Haplic Fluvisol haFLca Haplic Fluvisol Calcaric **Gleyic Fluvisol** gIFL Mollic Fluvisol moFL Gleyic Mollic Fluvisol gimoFL Haplic Arenosol haAR Endogleyic Arenosol ngAR Fluvic Gleysol fvGL Non-agricultural land state border line border line of Zahorska Ves cadastre











#### Soil types and soil subtypes of Zahorska Ves cadastre

#### Legend:







EUROPEAN UNION European Regional Development Fund







### Flooding events in June 2010



#### Legenda

hranica obce

zaplavené územie

hranica kultúrneho dielu irs-033-034\_12-06-2010\_ref-nn.img





### Flooding events in June 2010



#### Legenda

hranica SR hranica obce









#### Legenda

hranica SR hranica obce hranica kultúrneho dielu zaplavené územie irs-033-034\_12-06-2010\_ref-nn.img





## Map of water retention capacity



Retenčná vodná kapacita (RVK) poľnohospodárskych pôd Slovenska v závislosti od zrnitosti, hĺbky a plošného výskytu



### Cross-boundary Moravský Ján – Hohenau in 2006





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### Cross-boundary Záhorská Ves – Angern and der March in 2006

















## Thank you for your attention





