

INTERREG III B
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KArst waTER research program
KATER II

INTERREG III B
Water Forum,
Lüneburg, Germany
10th to 11th May 2004



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**Austria
Slovenia
Croatia
Italy**

KArst waTER research program

**The project
KATER II**

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**35% of the European area is karstic area.
In Austria the amount is 14%.**

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**Karst areas serve the drinking water supply.
In Austria 50% , in Vienna 90% of the population
receive drinking water from karstic areas.**

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project areas and project partners



Austria


Waterworks of Vienna (Lead-Partner)
Federal Ministry for Education, Science and Culture
Regional Government of Lower Austria
Regional Government of Styria

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project areas and project partners



Slovenia


**IRGO –
Institute of Mining,
Geotechnology and
Environment**

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project areas and project partners



Croatia

**IGI –
Institute of Geology**

project areas and project partners

Italy
Regione Veneto
Regione Molise

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objectives of the project:
development of a **DECISION SUPPORT SYSTEM**

land use
water economy
natural space

stimulating consciousness about
lasting resource management

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Decision support system (DSS)

Reasons for building DSS

- lack of information, complexity of system
- conflicting objectives and land-use interests
- fast decisions for complex problems in crisis situations

Steps building for DSS

- 1) Data collection
- 2) Provision of GIS and measure information basis
- 3) Decision support system

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Solution: Step 1 – data collection

Objective:
Collection and integration of data of heterogenous sources in one (distributed) data pool

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Solution: Step 2 - data documentation with metadata

Objectives:
Definition Quality, Cartography, Contact,... of data for different user (group)

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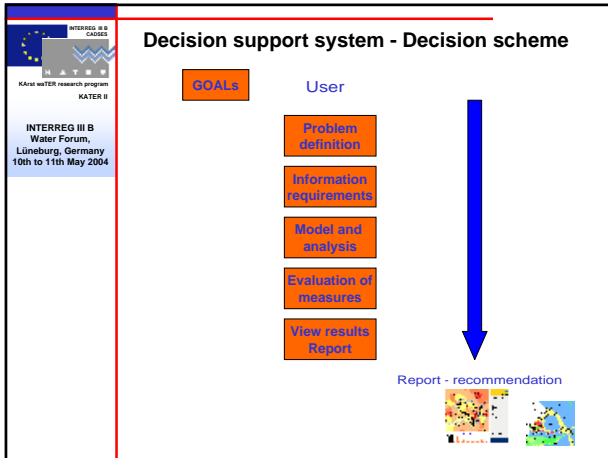
Solution: Step 3 - Decision support system

Components of a spatial decision support system

- **Data management**
Data query, data processing, data integration
- **Model management**
System modelling, simulation („knowledge base“)
Evaluation model
- **User interface**
easy to use, graphical user support
graphical presentation of decision environment
- **Reporting tool**
Documentation of decision process („transparency“)
Report integrates tables, graphics, text, maps

Objective:
Software system for support in water management tasks

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Example: Contamination of a spring

1) recognise problem -> DSS catalog of problem categories

bacteriological measure-values increased at spring

Example: Contamination of a spring

2) define info requirements -> DSS catalog of possible pollution sources and factors

select and load required data for solving problem

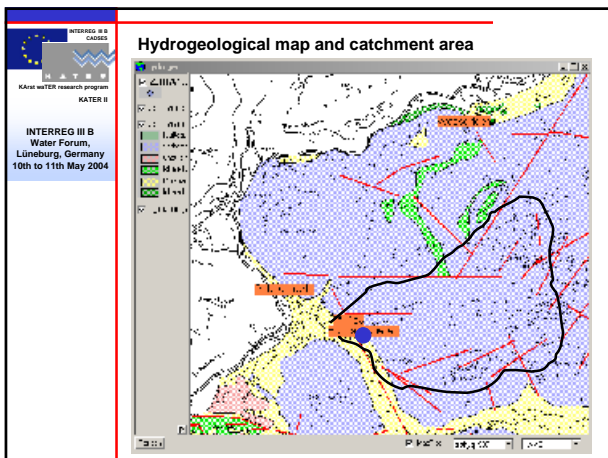
Which data are necessary ?

Load the data...

Example: Contamination of a spring

3) use expert knowledge -> DSS catchment information

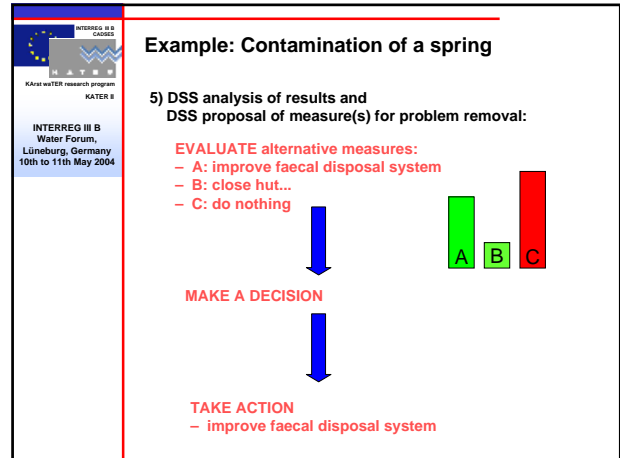
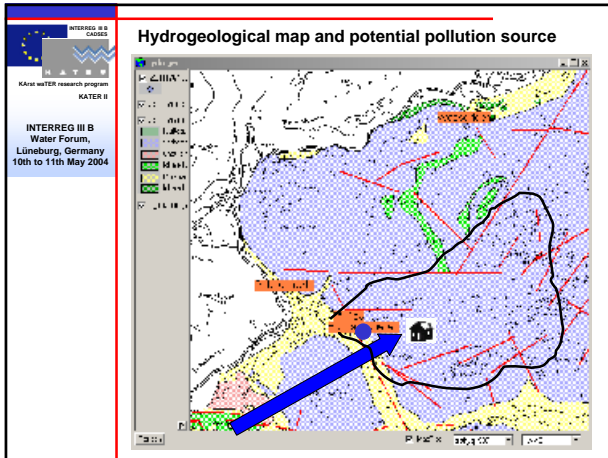
find possible reasons for contamination - define catchment area of the spring



Example: Contamination of a spring

4) use expert knowledge -> DSS analysis of potential pollution sources within catchment area

Land-use category tourism
 visualisation of touristic used alpine hut
 possibility of faecal disposal
 present results - maps



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- ## KATER II ...
- ... makes an important contribution to the active protection of resources.
 - ... promotes European cooperation and intensifies the transnational interchange of knowledge and experience.
 - ... stimulates consciousness in society actively.
 - ... gives a basis for optimal conflict solutions in the fields land use, natural space and water economies.