

Legend

Submission 2010

Groundwater horizon

- 1
- 2
- 3
- 4
- 5
- not specified
- Non WFD (CH)

Submission 2008

- No stratification

Willi Struckmeier BGR/IAH



Workshop on GWBs in Europe, Berlin, 25 – 28 Oct 2005

2005

- **Uncertainties about WFD implementation**
- **CIS paper on GWBs optional**
- **great diversity of methods in MS**





Requests for a follow-up Workshop, but at that time (2005)...

- BGR not mandated in Germany
- MS reporting data not yet available
- WG-C busy identifying a common strategy for WFD/GWD implementation

Attempts

to bring the **Conclusions & Recommendations of the 2005 GWB Workshop** to the attention of the EC, WG-C

- **Meeting of WG-C, Brussels 2005**

- **WFD Meeting on Monitoring, Lille 2007**

= Contribution of Hydrogeological Mapping to the Design of Water Monitoring Programmes (W Struckmeier)

- **WG-C Meeting, Berlin 2008**

European Workshop on Groundwater Bodies Berlin / Germany, October 25 – 26, 2005

Conclusions & recommendations for future strategies on groundwater protection



- uniform and coherent data (groundwater + surface water)
- groundwater typology for Europe (aquifers, general legend)
- natural groundwater conditions (quantity, quality)
- groundwater flow systems understanding and pollution protection
- consider drivers and pressures (man-made actions, wells, pollution)
- underpinning GW monitoring needs (where, when, point of compliance)
- compatible complementary data (soil, land use, sealing)

Legend

- Porous aquifers**
 - extensive and highly productive aquifers
 - local to intermediate productive aquifers or extensive but only moderately productive aquifers
- Fractured aquifers, including karst aquifers**
 - extensive and highly productive aquifers
 - local to intermediate productive aquifers or extensive but only moderately productive aquifers
- no data without groundwater
- data with low and no groundwater
- data with essentially no groundwater resources
- area of special attention
- high protection area

Workshop on Groundwater Bodies Berlin / Germany, 25 - 26 October 2005

Recommendations (I) to the Geological Surveys in Europe

The Berlin Workshop suggested that the Geological Surveys in Europe

- develop a better understanding of flow and residence time in groundwater flow systems (particularly in large and deep flow systems)
- consider the damage of aquifers from over-pumping and subsequent compaction (subsidence)
- take a preventive, long term view to avoid pollution of important aquifer systems



Workshop on Groundwater Bodies Berlin / Germany, 25 - 26 October 2005

• Recommendations (II)

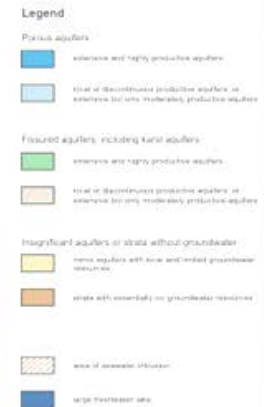
• Transboundary aquifer systems need to be identified in their natural setting, without regarding their present status of use

• Anomalous GW systems (hydrothermal / volcanic activity, ore deposits, closed basins) need to be investigated

• Research is needed for the assessment of hitherto unmonitored aquifers (comparable to the Prediction in Ungauged Basins (PUB) programme) in view of

- defining the (natural) background composition of groundwater

- assessing the natural potential of groundwater



Attempts

to bring the Conclusions & Recommendations of the 2005
GWB Workshop to the attention of the EC, WG-C

- Meeting of WG-C, Brussels 2005
- WFD Meeting on Monitoring, Lille 2007

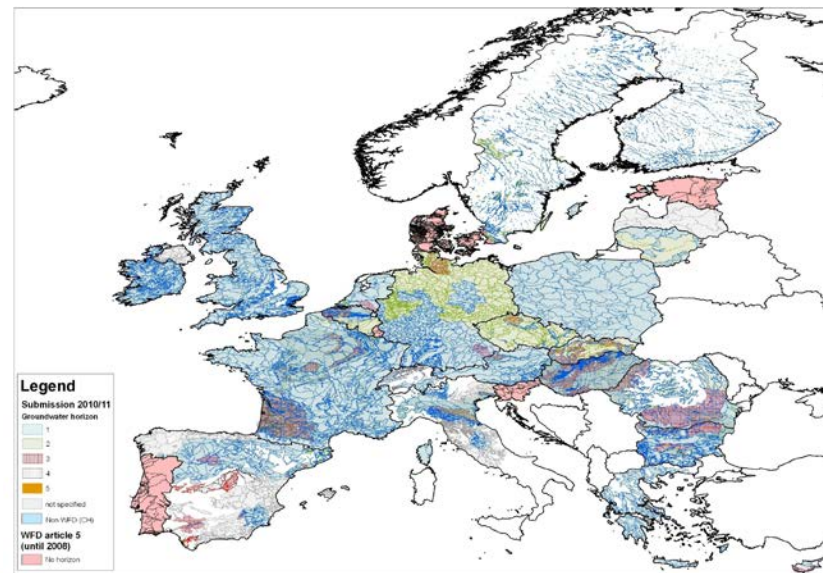
*= Contribution of Hydrogeological Mapping to the Design
of Water Monitoring Programmes (W Struckmeier)*

- WG-C Meeting, Berlin 2008

Where are we now, six years after ?

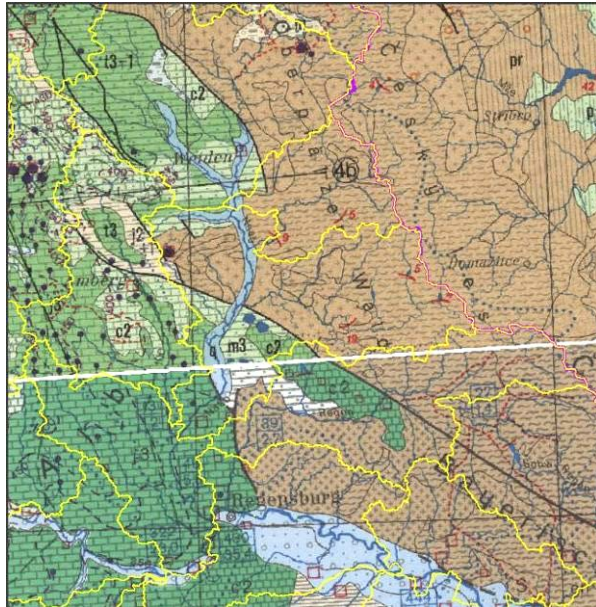
Important Changes since 2005

- EEA responsible for EC Water issues (JRC for soil)
- ETC-Water (ETC-ICM inland-coastal-marine)
- BGR responsible for GIS-layer of Groundwater Bodies in Europe
 - how ?
 - method ?
 - data ?

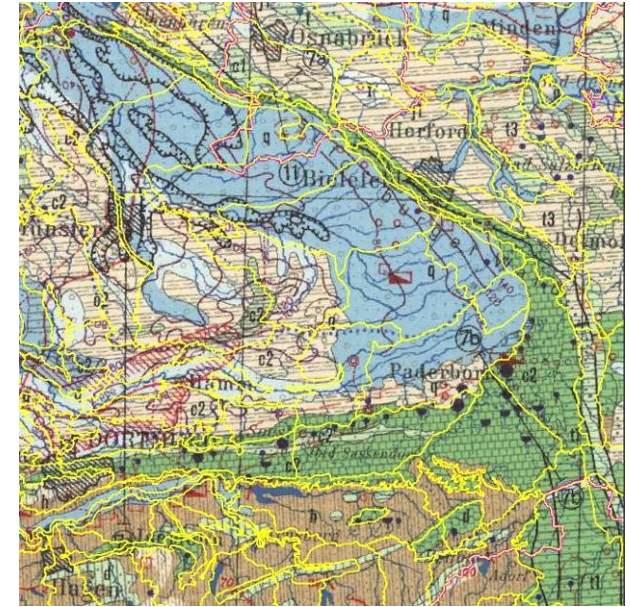


GWB Concepts

„A distinct volume of water in an aquifer with significant water flows or significant abstraction“

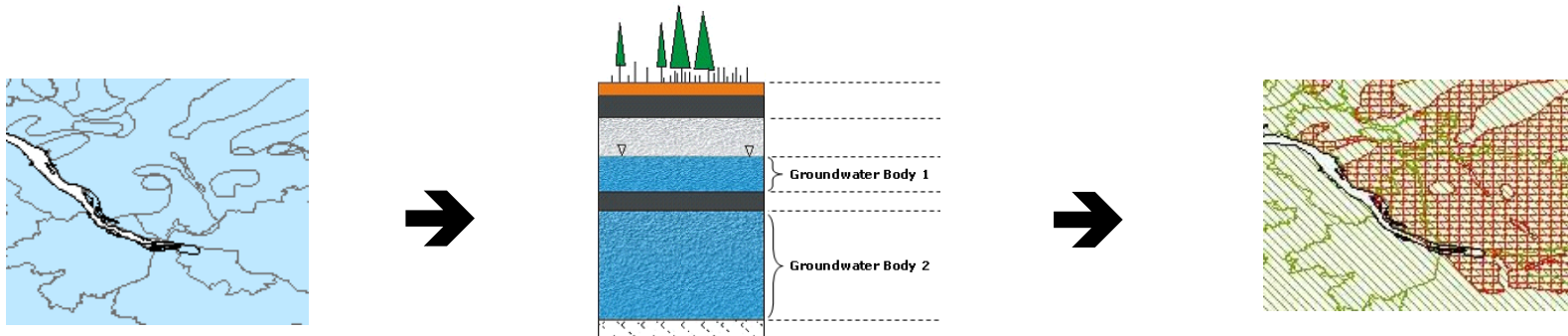


Overlay of
GWBs in
Germany
above the
IHME
=
Different
concepts

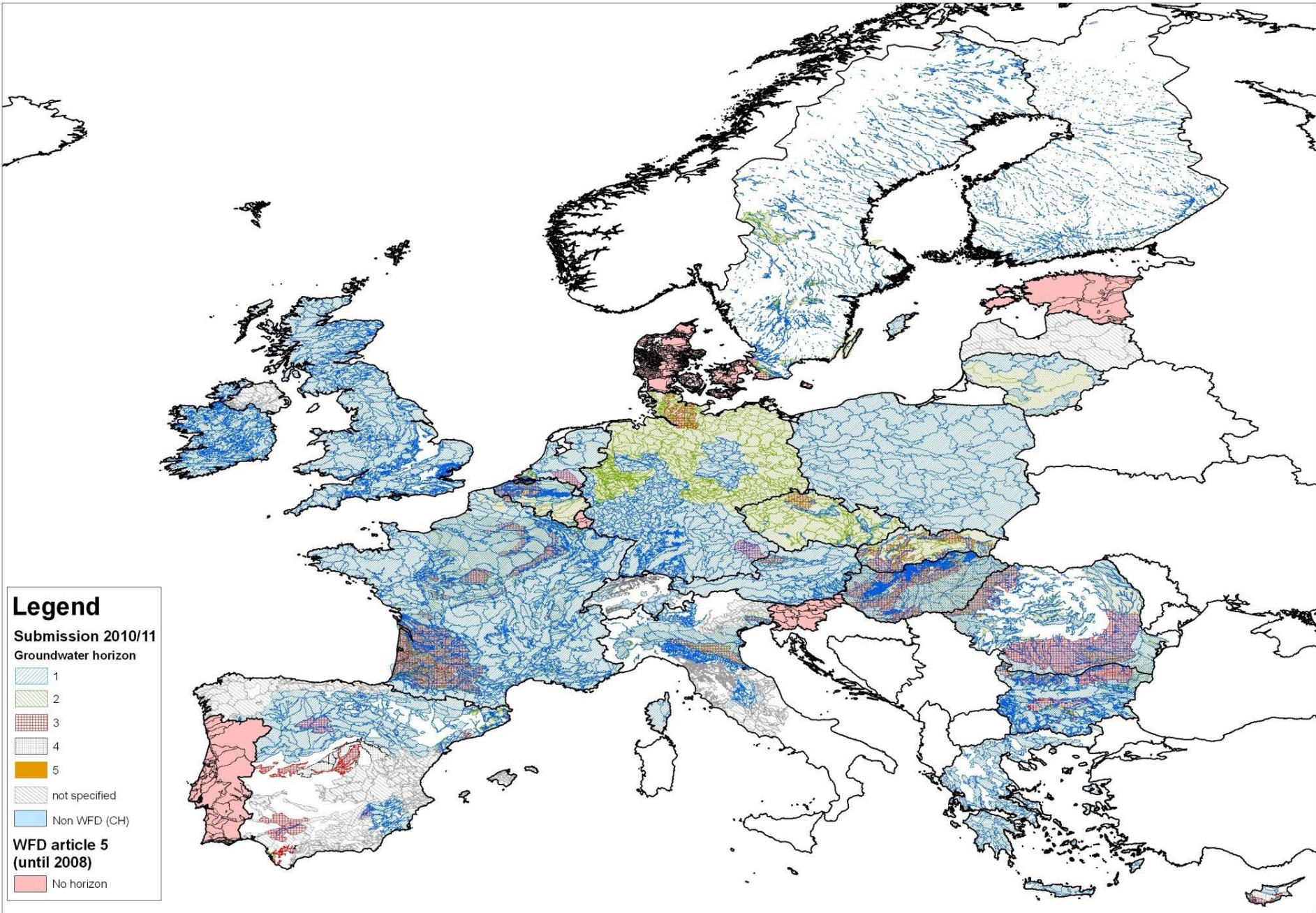


→ Management aspects

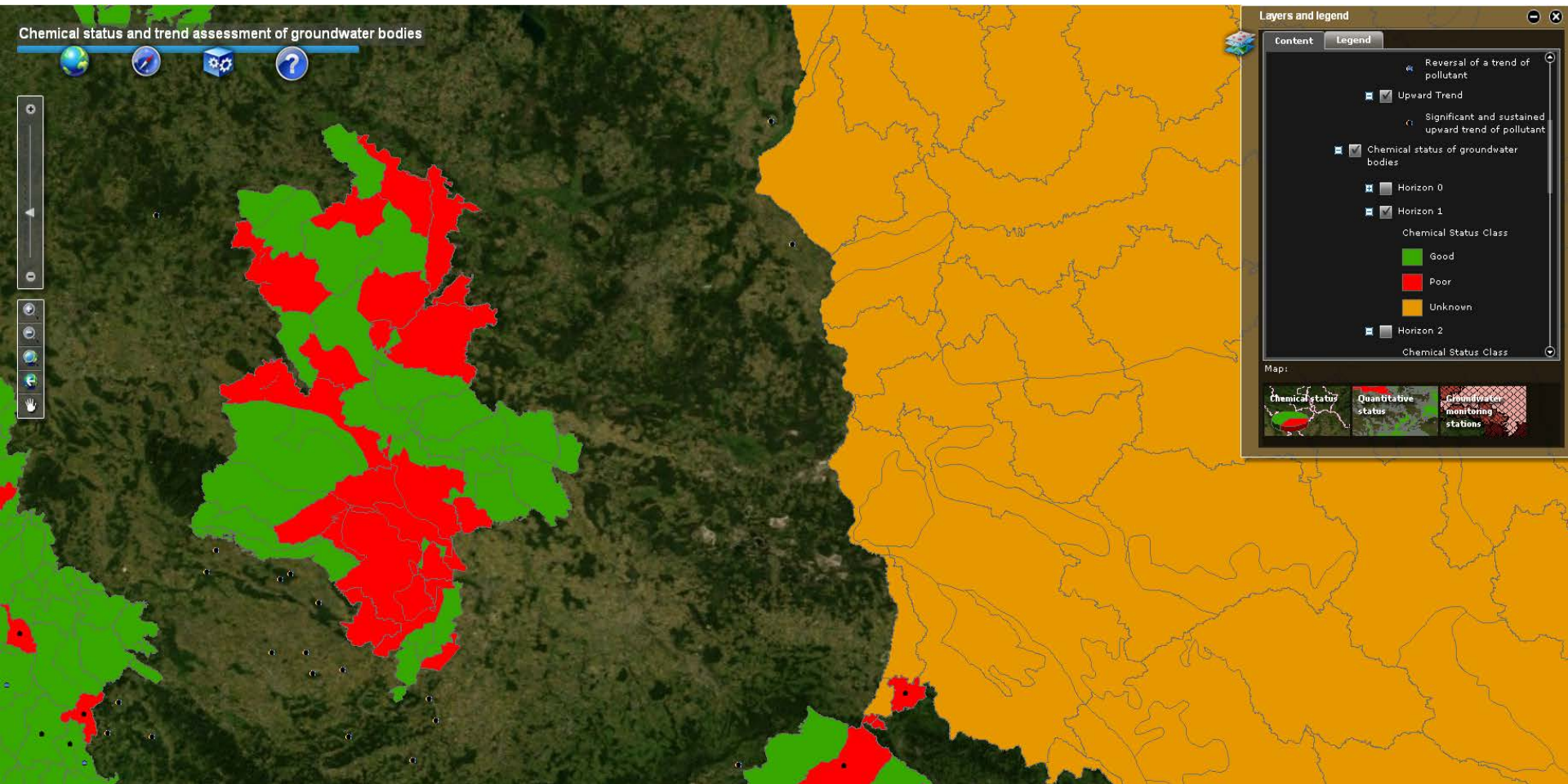
→ Hydrogeological criteria



→ NEW: Three dimensional characterisation of GWBs in 'horizons'



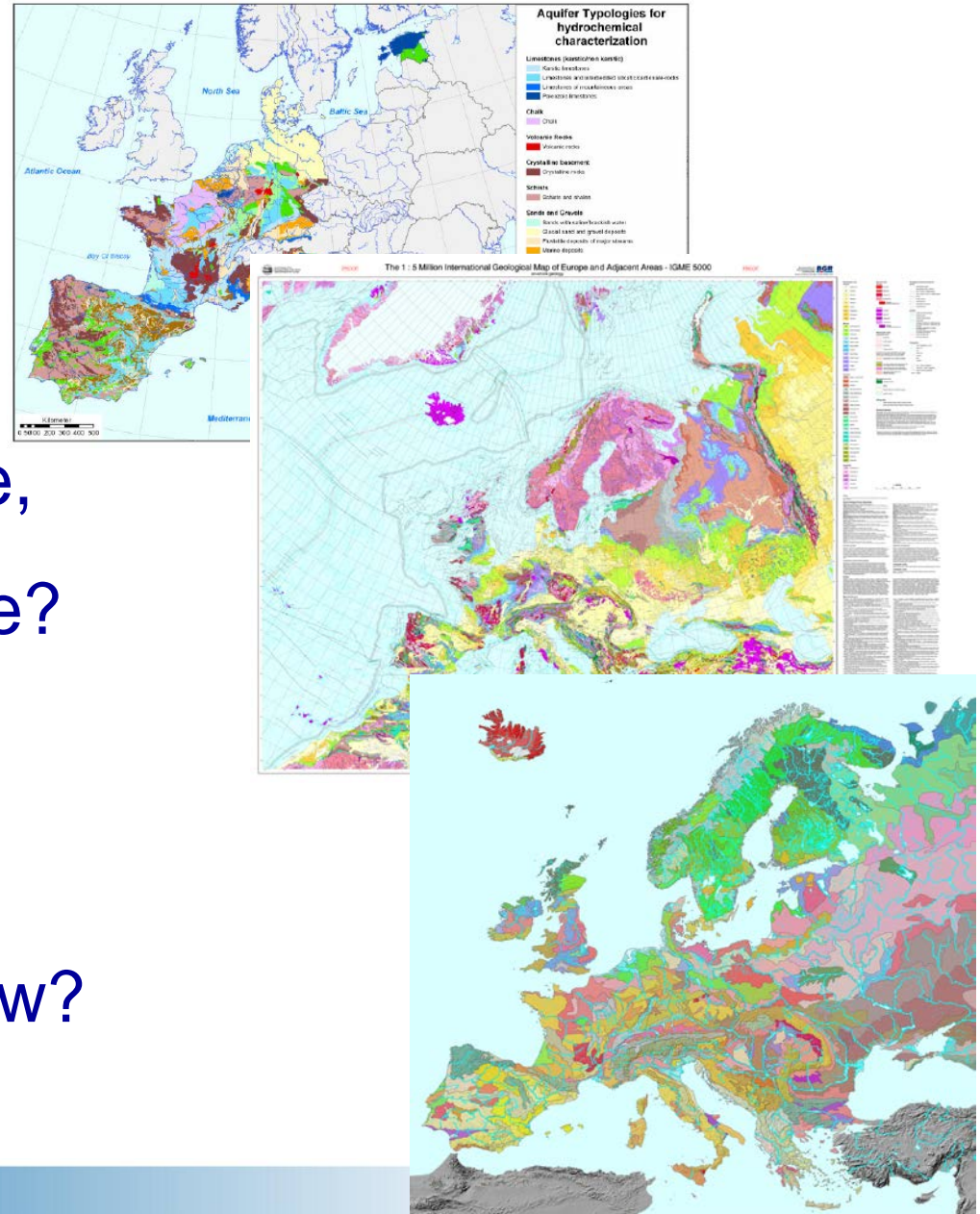
2010: WISE – Groundwater Viewer *



‘The European Patchwork Family’

Homogeneous data sets in EU

- BRIDGE = only part
- IGME 1:5 M too coarse,
= small scale, too coarse?
- soil regions 1:5 M
= small scale, too shallow?



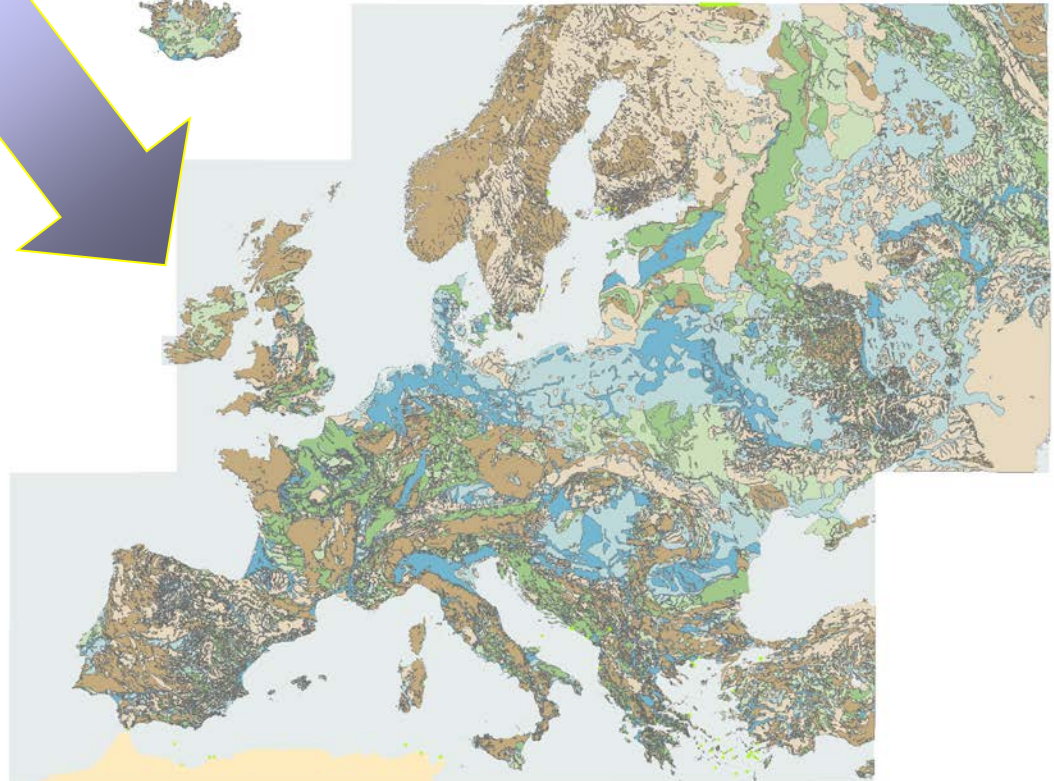
IHME International Hydrogeological Map of Europe, scale 1:1.5 Million

- ~~too old, not digital~~



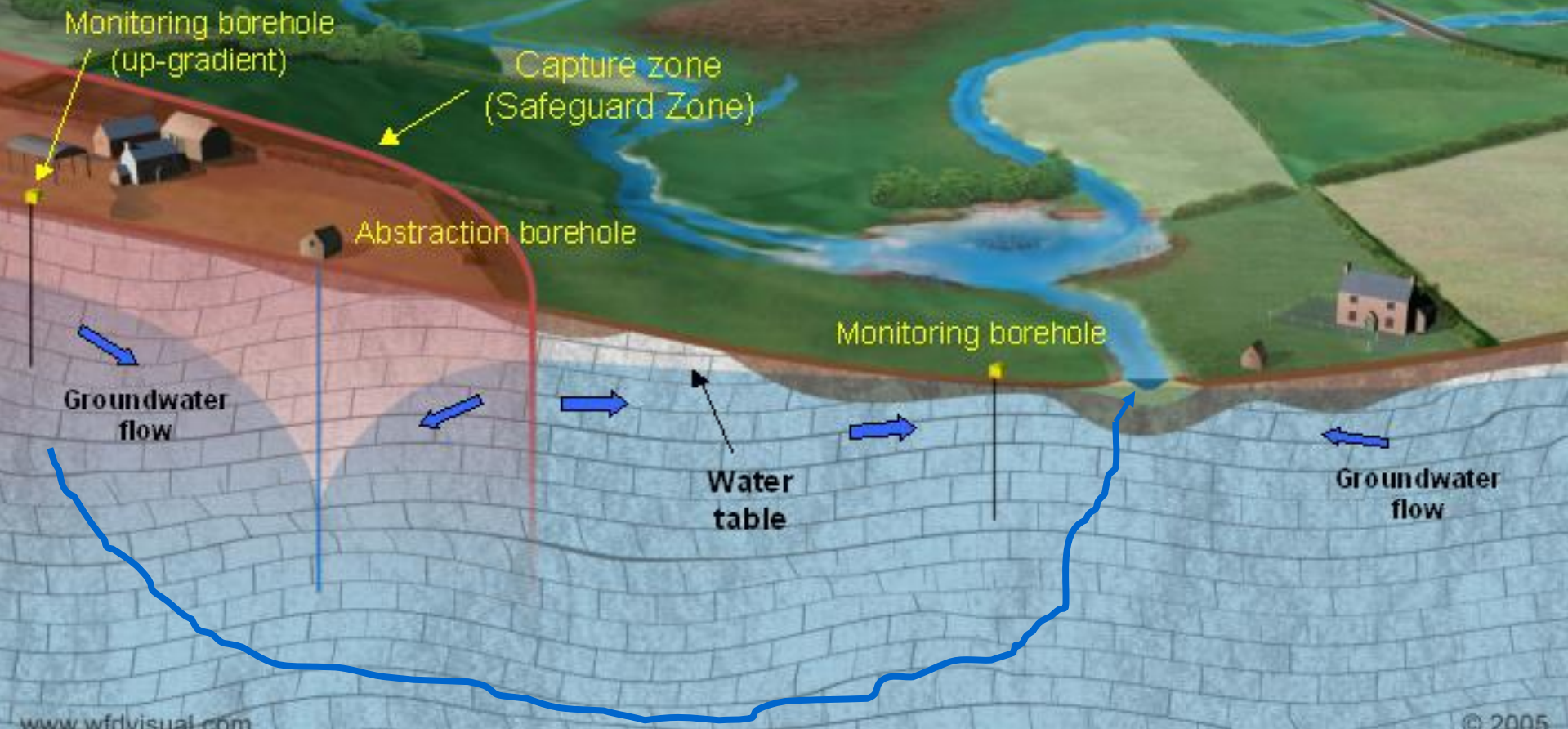
БГМ
БГМ

BGR



Workshop Objective:

Discuss/agree options for preparing a GIS-layer on GWBs for Europe



2nd Workshop on Groundwater Bodies in Europe 2011 Final Agenda

Thursday, 15 December 2011	
9:00 – 10:30	Registration Poster exhibition
10:30 – 11:10	<p><i>Opening and introduction</i></p> <ul style="list-style-type: none"> - Welcome to BGR Berlin (Michael Kosinowski, BGR) - Welcome to the Workshop on behalf of EGS (Luca Demicheli, EuroGeoSurveys) - Introduction to the Workshop and Retrospective of the 2005 Workshop (Willi Struckmeier, BGR)
11:10 – 12:30	<p><i>Theme 1: Status of Groundwater Body (GWB) reporting and data available</i></p> <ul style="list-style-type: none"> - The role of the European Topic Centre on Inland, Coastal and Marine Water (Anita Kuenitzer, ETC/ICM) - Groundwater Bodies in the Water Information System of Europe (Bo Jacobsen, EEA) <p><i>Discussion</i></p>
12:30 – 14:00	Lunch and Posters

Thursday, 15 December 2011, afternoon

14:00 – 15:30	<i>Theme 2: Analysis of reported GWB delineation</i> - Significance of Groundwater Bodies in the implementation of the Water Framework Directive and for groundwater reporting (Johannes Grath, Working Group C) - Report on the preparation of a GIS-Layer of Groundwater Bodies based on the 2010 submission (Klaus Duscher, BGR) <i>Discussion</i>
15:30 – 16:00	Coffee break and Posters
16:00 – 17:30	<i>Theme 3: Data, Methodologies and Analysis of the GWB reporting, case studies</i> - Experiences from GWBs in the UK (Rob Ward, BGS) - GWBs in France (Ariane Blum, BRGM) - GWBs in the Czech Republic (Hana Prchalova, CENIA) - GWB boundaries in a hydrogeological model, case of Saarland, Germany (Thomas Walter, LUA Saarland) <i>Discussion</i>
17:30 – 19:00	Poster exhibition and snacks

Friday, 16 December 2011	
9:00 – 10:30	<p><i>Theme 4: Towards a harmonised GWB layer in Europe</i></p> <ul style="list-style-type: none"> - A common vision about groundwater entities in Europe (Klaus Duscher & Willi Struckmeier, BGR) - Transboundary Aquifers of Europe (Lena Heinrich & Neno Kukuric, IGRAC) <p><i>Discussion</i></p>
10:30 – 11:00	Coffee break
11:00 – 12:30	<p><i>Theme 5: Options to improve the European GIS layer</i></p> <ul style="list-style-type: none"> - International Hydrogeological Map of Europe (Andrea Richts, BGR) - Lessons from OneGeology Europe (Kristine Asch, BGR) <p><i>Discussion</i></p>
12:30 – 14:00	Lunch
14:00 – 15:40	<p><i>Conclusions and recommendations</i></p> <ul style="list-style-type: none"> - (EGS) - (BGR) - (EEA) - (EC/WFD) <p><i>Final Discussion</i></p>
15:40-16:00	Wrap-up and Closure

**HAVE A NICE WORKSHOP
AND EFFICIENT DISCUSSIONS**