Assessment of harmonised soil information in Europe

Mark Kibblewhite, Robert J.A. Jones, Mark Stephens, Rainer Baritz, Sigbert Huber, Dominique D. Arrouays, Erika Micheli

Assessment of harmonised soil information in Europe

- integrated soil research in FP6

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ENVASSO – “Environmental Assessment of Soil for Monitoring”

FP6: Jan. 2006 – Dez. 2007

Project core partners:

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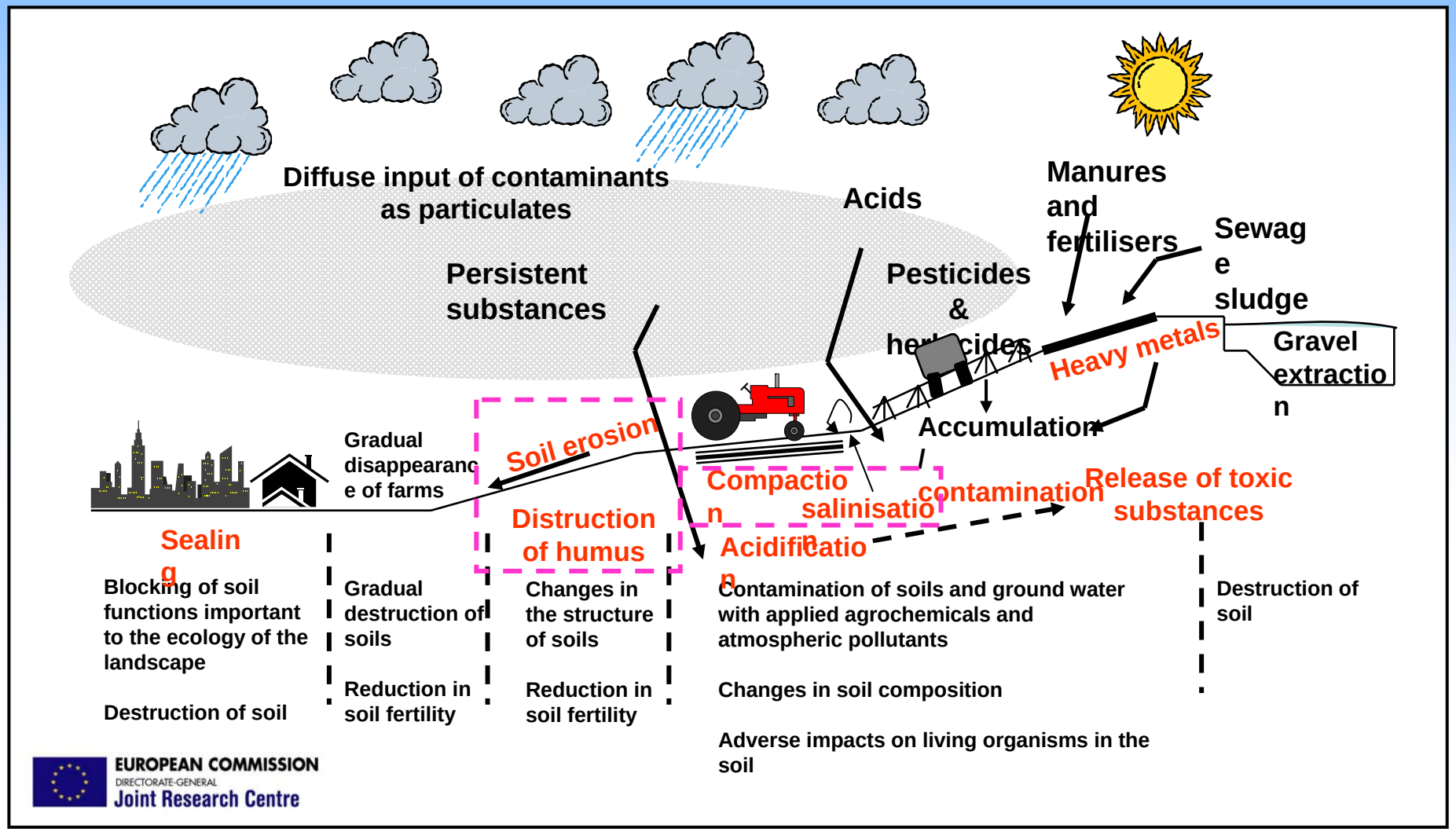
2) Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Germany
3) Umweltbundesamt, Austria
4) Institut National Recherche Agronomique (INRA), France
5) Szent Istvan Egyetem (SIU), Hungary

The impact of human activities on soil



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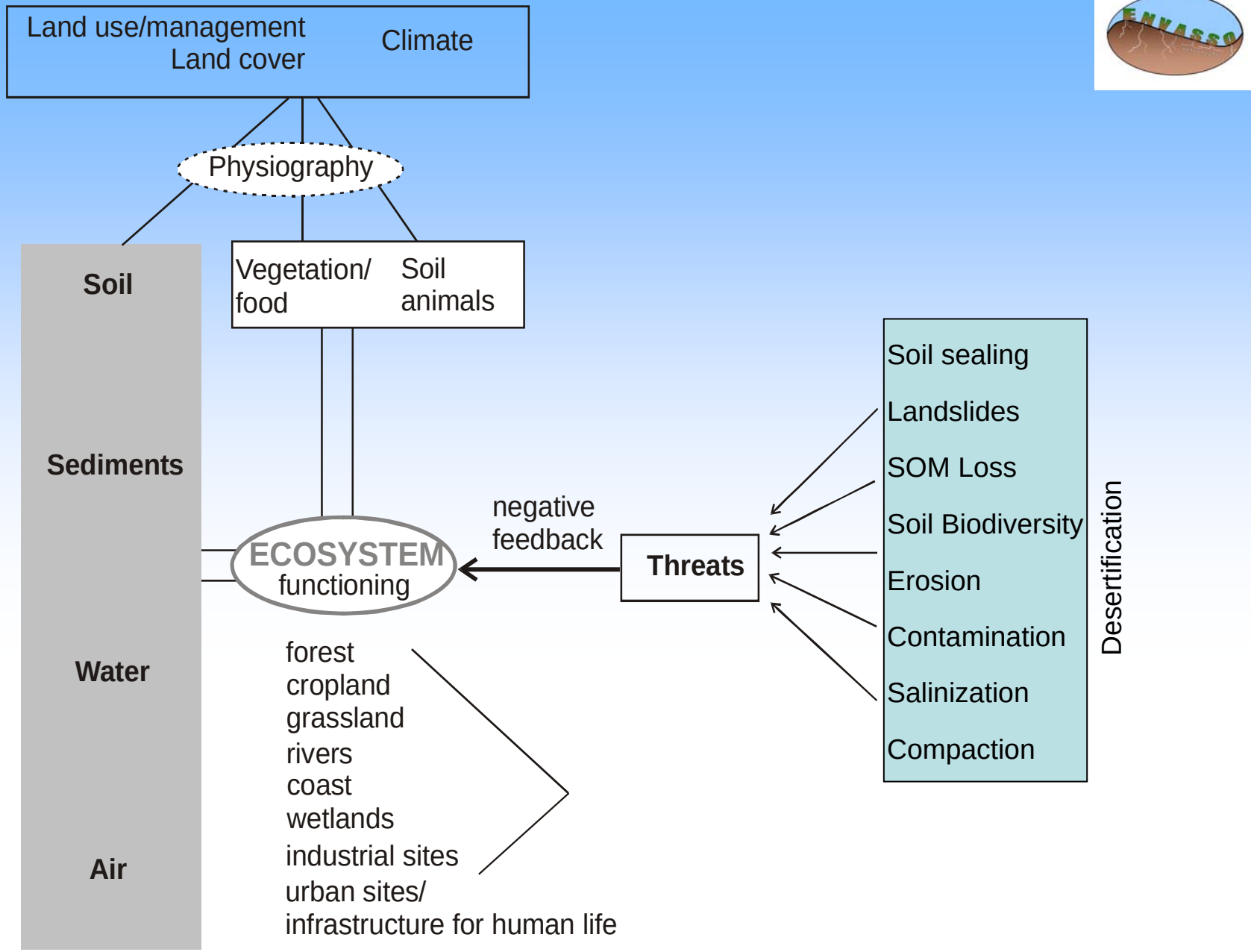
Land use/management
Land cover
Climate
Physiography
Vegetation/
food
Soil
animals
Soil
Sediments
Water
Air
ECOSYSTEM
functioning
negative
feedback
Threats
Soil sealing
Landslides
SOM Loss
Soil Biodiversity
Erosion
Contamination
Salinization
Compaction
Desertification
forest
cropland
grassland
rivers
coast
wetlands
industrial sites
urban sites/
infrastructure for human life

ENVASSO Objectives

- **scientific basis** for **European-wide harmonised characterisation of soils**
- **evaluation of soil status** through **representative measurements of soil indicators**
- development of a **single, integrated, EU-wide and operational set of measurable indicators**

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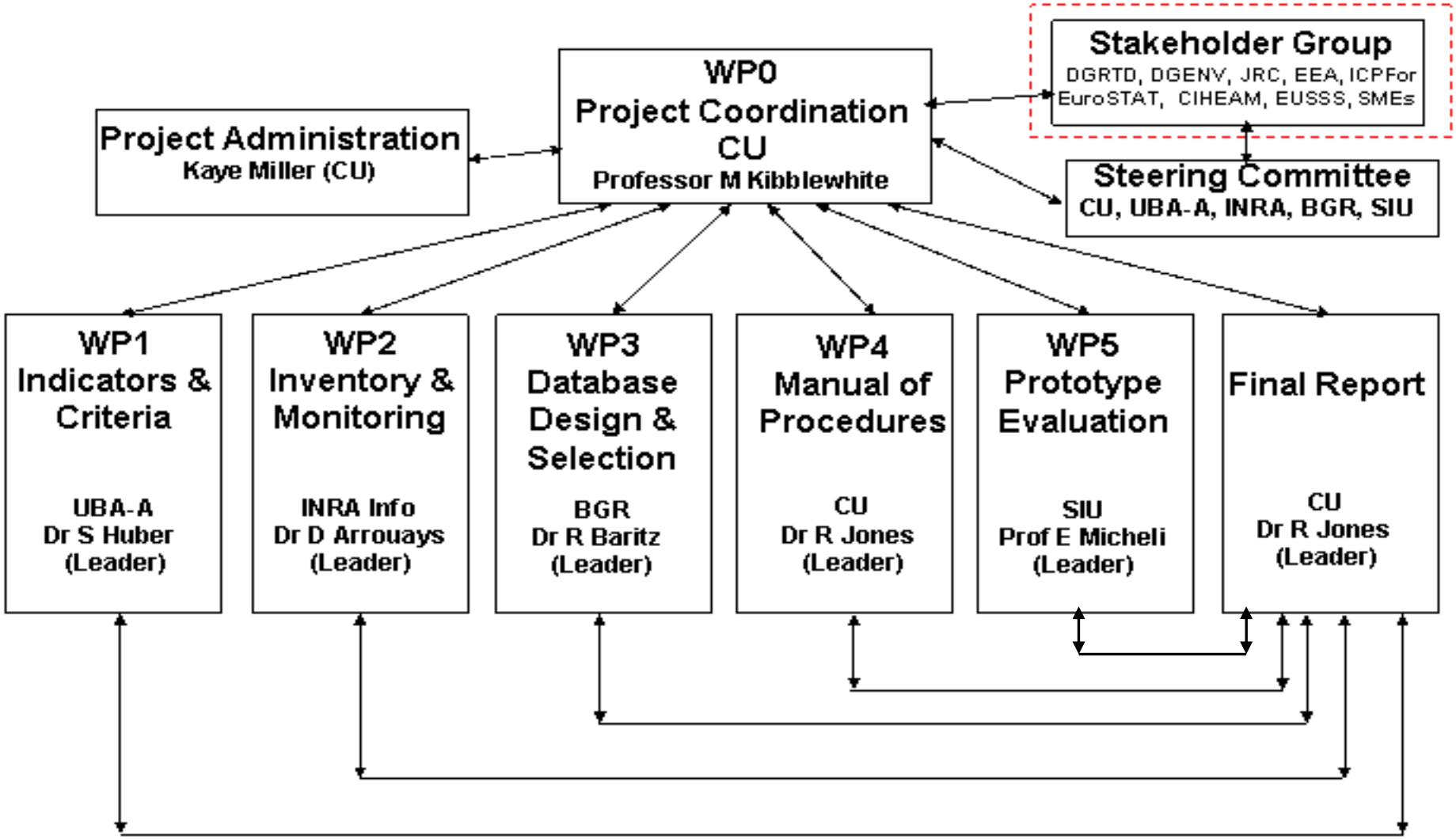

Project Structure and Organisation

WP1: Criteria & Indicators

- **Literature review**
- **Selection of key issues (n=25) and indicators**
  (n=62; priority/TOP3 threats: n=26) related to soil threats
- **Baselines and Thresholds**
- **Data and user requirements**

Fact sheets
for priority indicators

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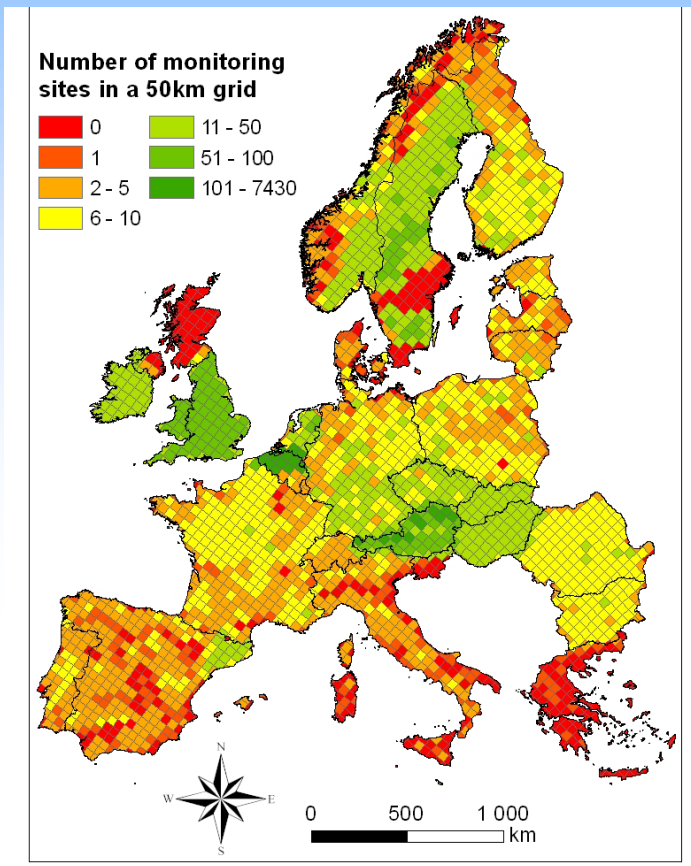
WP2: Sites designated for investigating soil threats

Lead content



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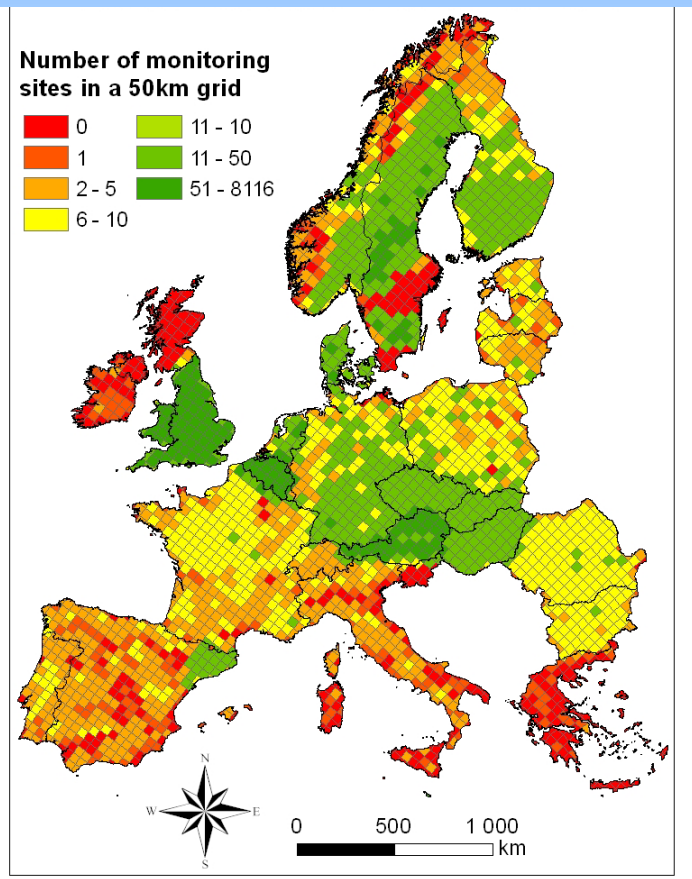

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WP3: Data Base Design and Selection

Structural analysis of existing soil data bases/ information systems

- data/system holders vary: universities, research facilities, national and regional agencies
- several data bases exist, which do not share common standards, and which are not linked
- where information systems exist: different objectives, structures, data types and nomenclatures are used

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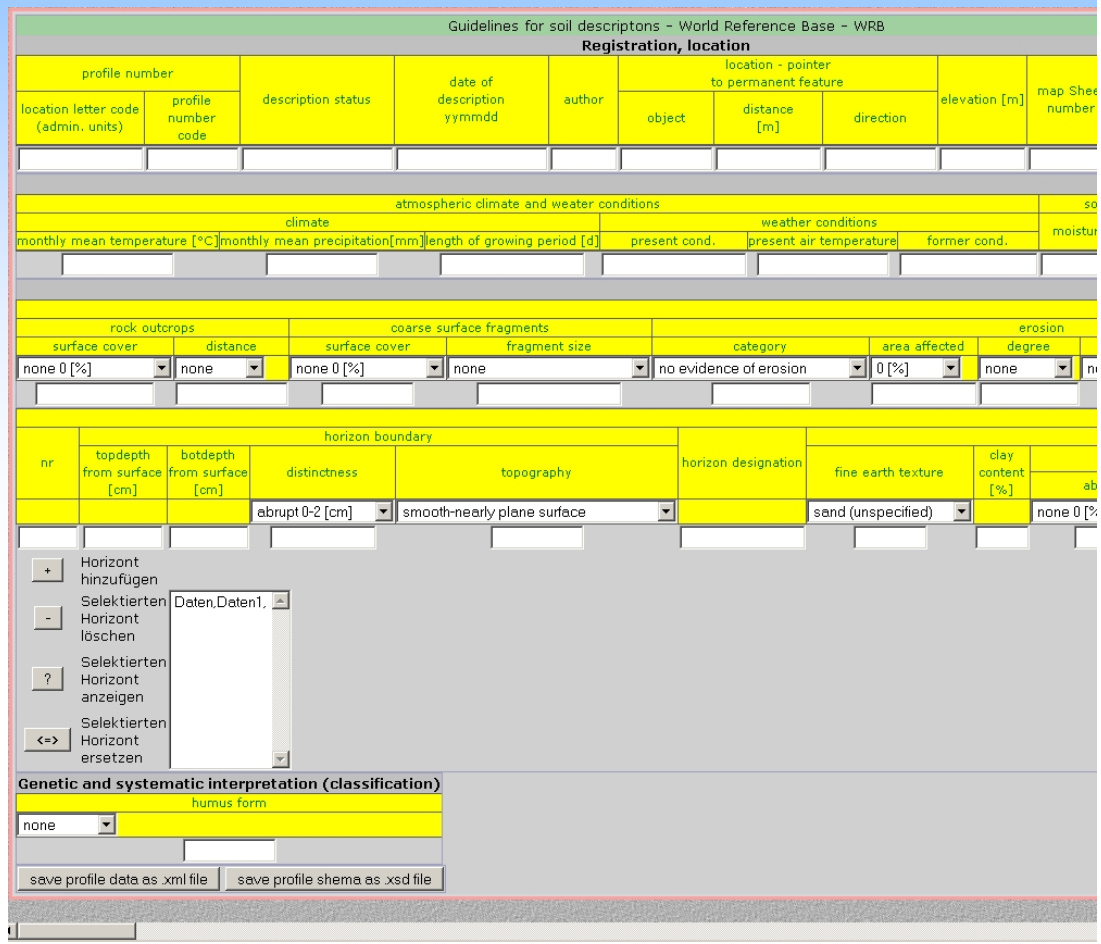
WP3: Data Base Design and Selection

Data communication:

XML-based soil information exchange

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Participation in ISO/TC/SC 1/WG3 “Data codification and management”

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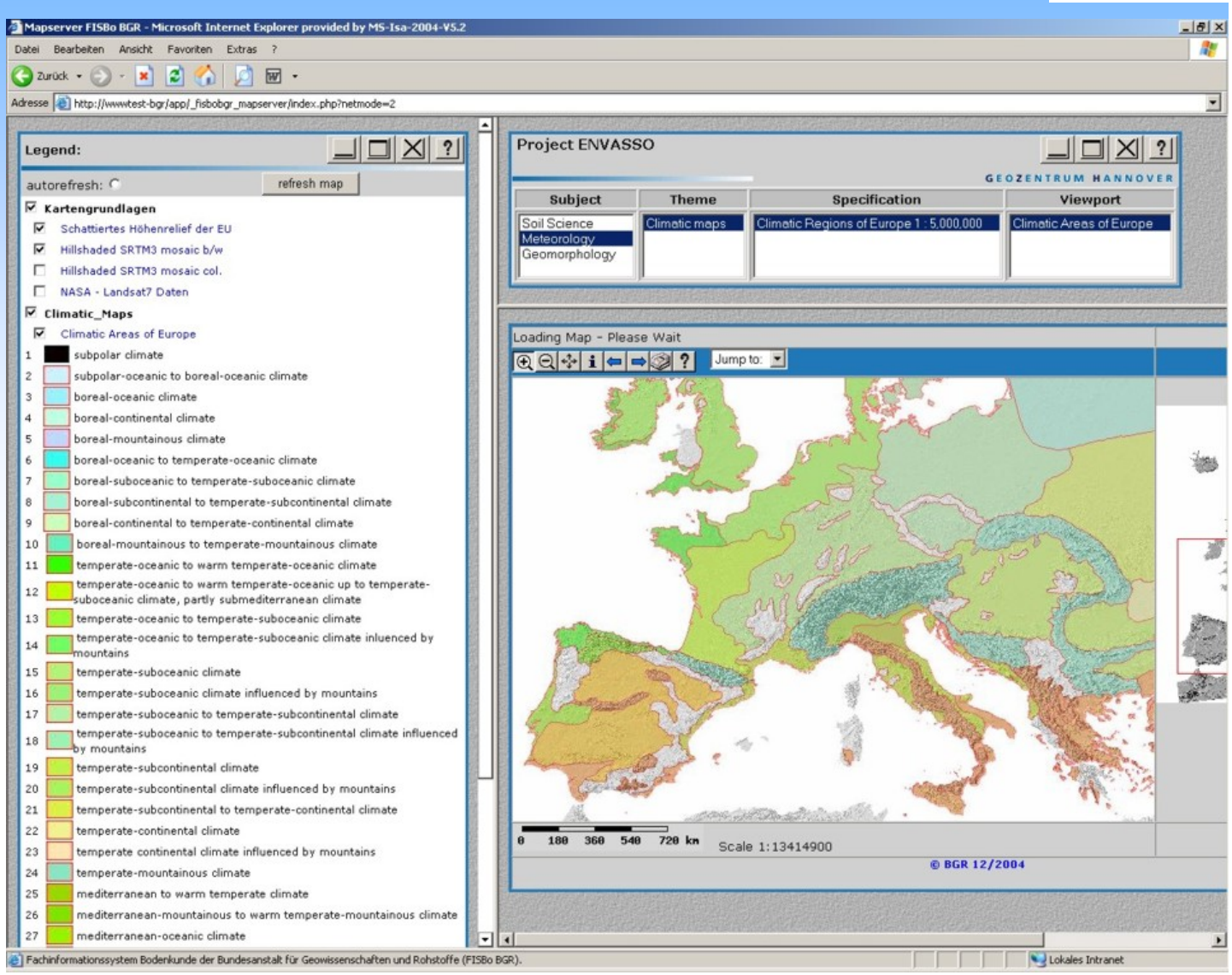
WP3: Data Base Design and Selection

Project soil data portal as the platform for a proto-type web soil service (WSS)



Following OGC-standards, and rules set by INSPIRE

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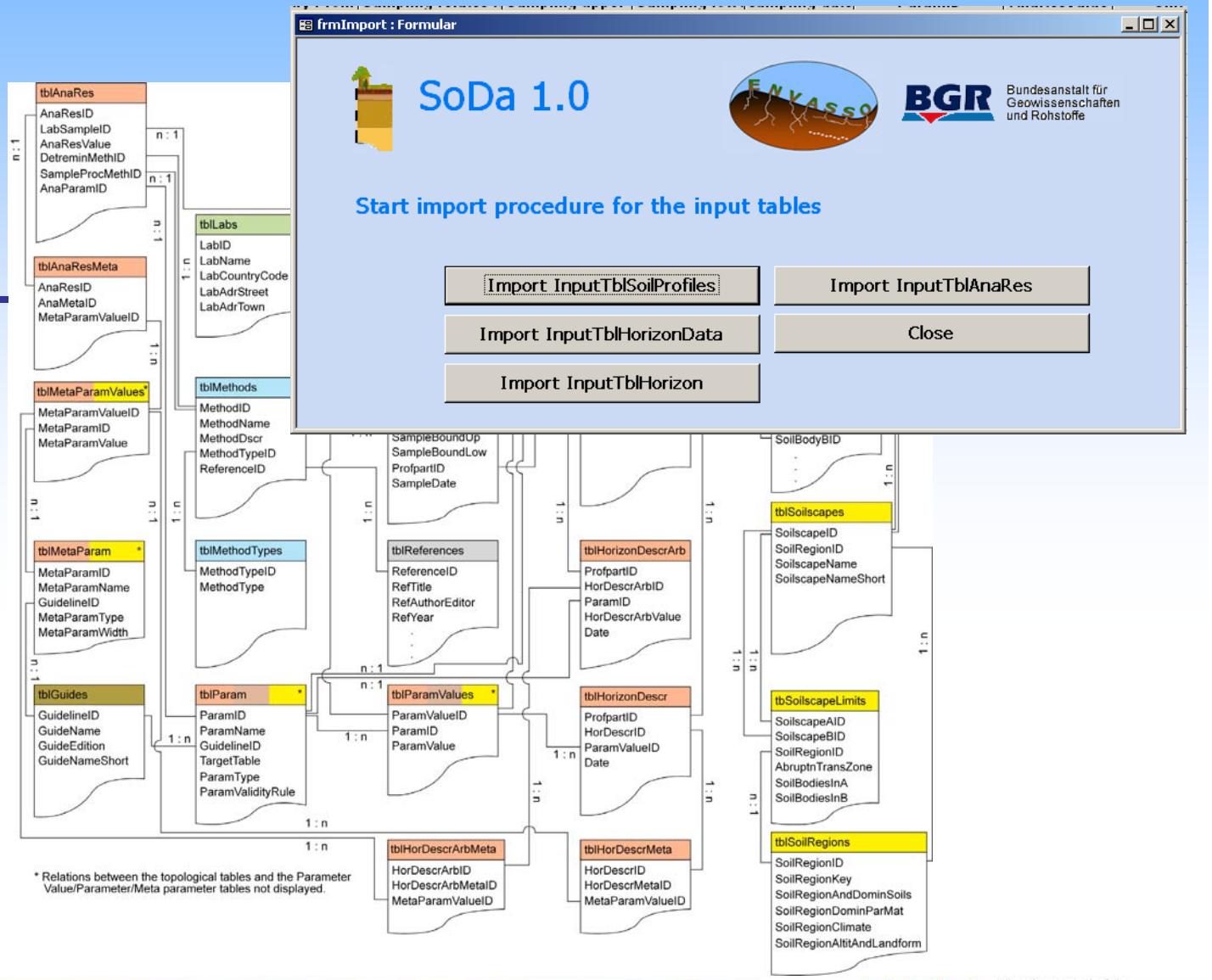
WP3: Data Base Design and Selection

Development and testing of a data model for soil monitoring data



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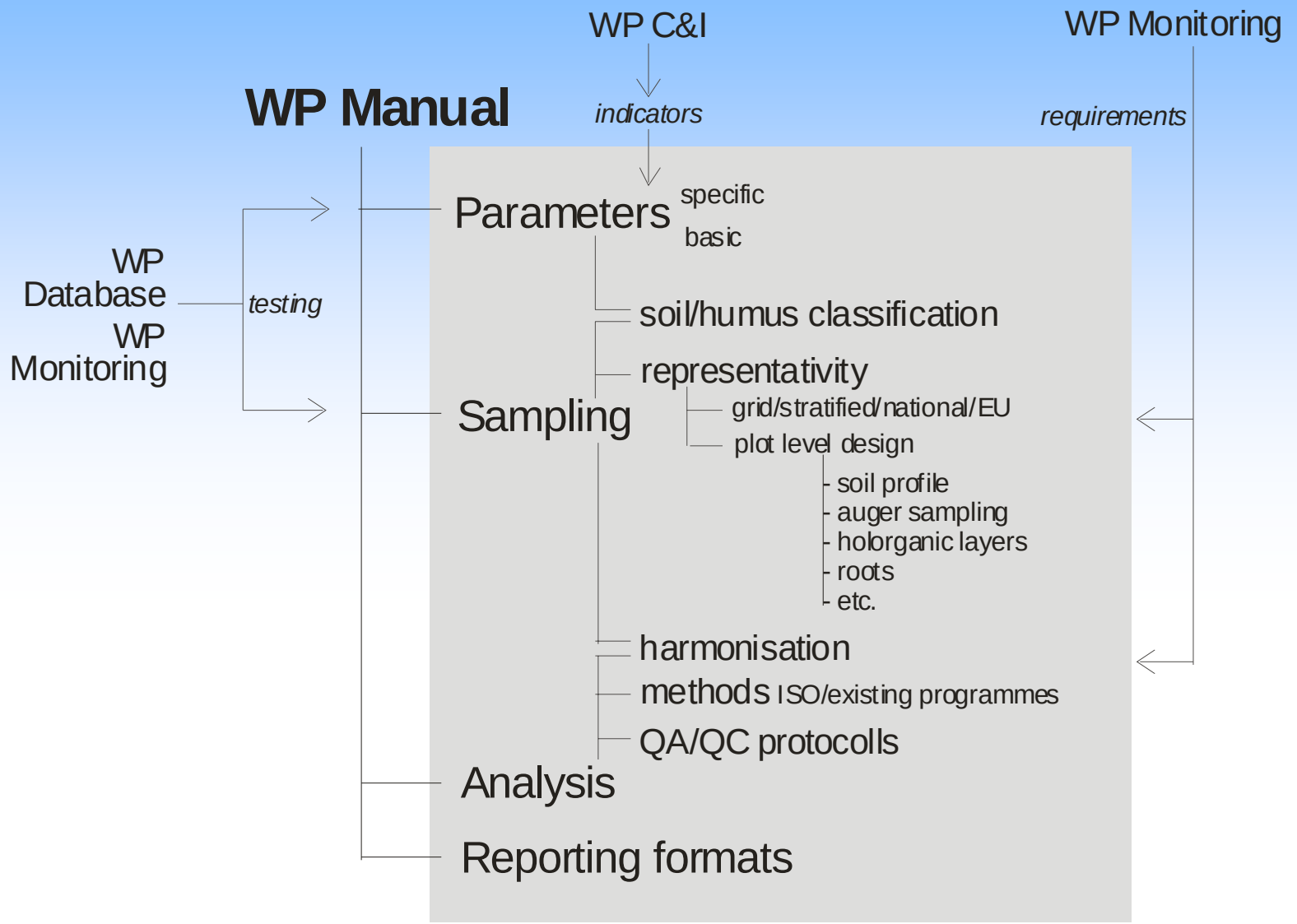
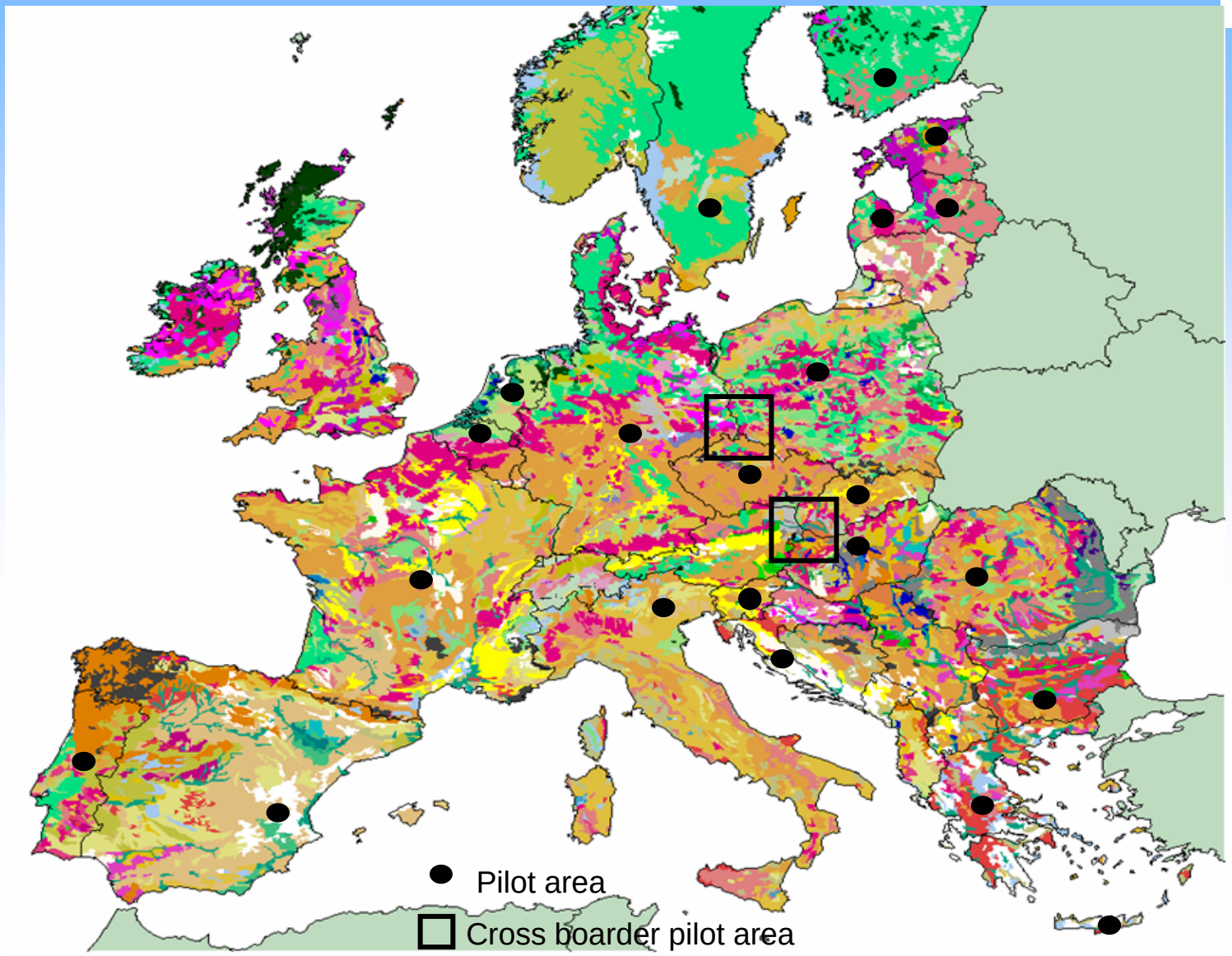
WP4: Manual development



WP5: Pilot areas



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Outlook for developing soil observing systems

from the 'data base design' point-of-view:

- **data assembling units: systems for soil monitoring networks at various measurement intensities and auxiliary data uptake**
- **standards development: classifications, data formats, (online) data communication**
- **data storage and QA/QC units: harmonization, data documentation and access**
- **data processing units: method development:** pedotransfer funtions, models, up-/downscaling, dynamic linkage of semantic and geometric typological soil data

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