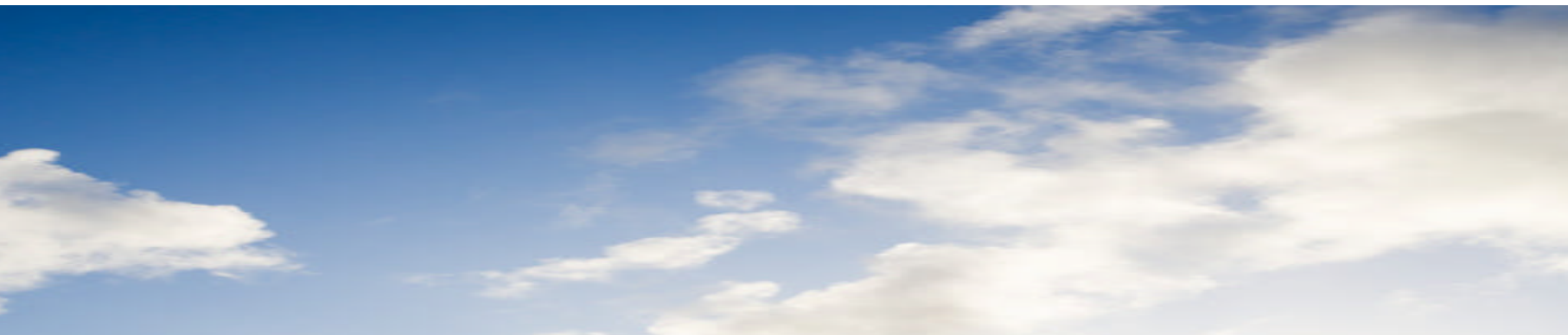




Netherlands Environmental Assessment Agency (PBL)

GeoPEARL
*Future Developments of
Spatially-Distributed Pesticide Leaching Models
in the EU*



Spatially-distributed modelling – why?

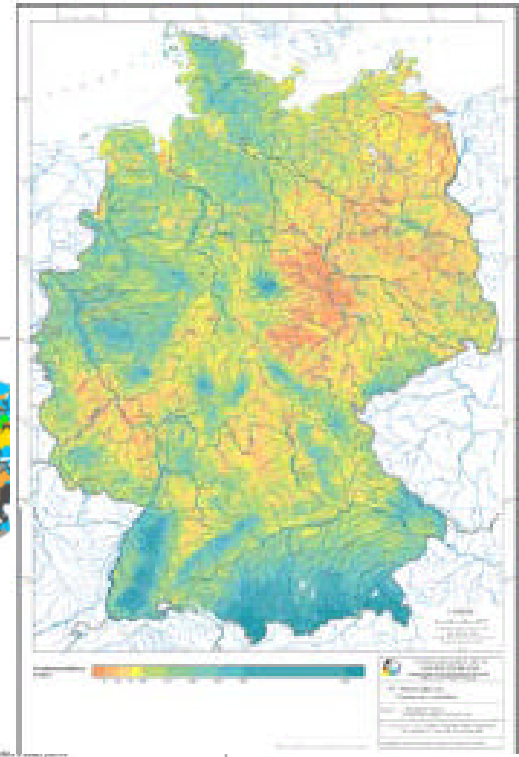
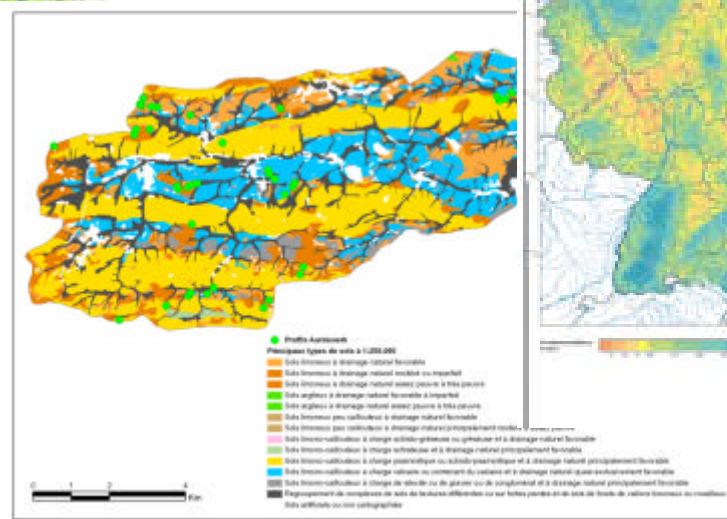
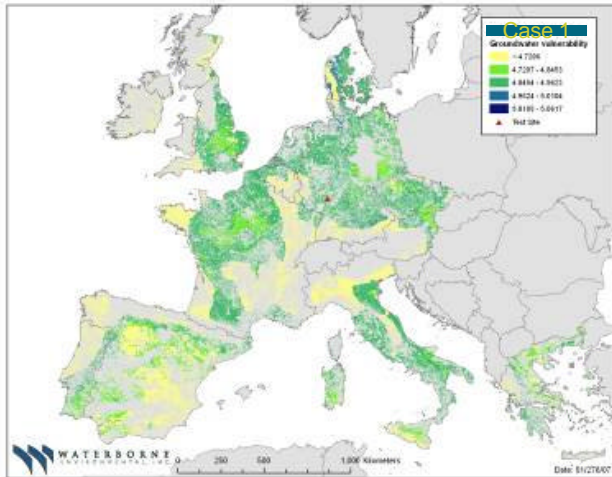
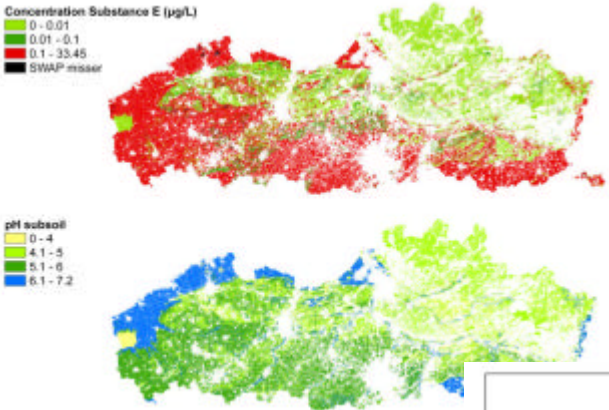
- Objective quantification of the 90th percentile of the leaching concentration
 - Current national or European scenarios may not be representative for a country or a region
- Possibility to deal with registration in crops that are limited to certain regions
- Possibility to deal with different soil types
- Possibility to deal with substances that show “non-typical” behaviour (e.g. pH-dependent sorption)

GeoPEARL history



- First version of precursor of GeoPEARL operational in Netherlands in 1996
- GeoPEARL used in second tier of Dutch registration procedure since 2004
- A version for the EU-15 developed within APECOP (EuroPEARL); a metamodel operational for the EU-27
- Initiatives for GeoPEARL versions in Belgium, Germany and Austria

Examples



Participants

- Netherlands: 5
- Belgium: 4
- Germany: 4
- Italy: 2
- Austria: 1
- USA: 1



Aim of Workshop



- To provide information about the application and development of the GeoPEARL model;
- To promote the exchange of information and experiences between the various developers;
- To discuss problems encountered during development and find possible solutions;
- To indicate a roadmap towards a GeoPEARL version for the EU-27.

Programme



- Session 1: Background information from
 - the PEARL team
 - EFSA
 - JRC
- Session 2: Experiences from developers in other EU member states
- Session 3: What lessons can be learnt from experiences to date?
Discussion in two breakout groups
- Session 4: Roadmap towards a GeoPEARL version for the EU-27

Today's programme



- **Session 1**
- Welcome address
- Erik van den Berg: PEARL: overview of developments
- Aaldrik Tiktak: Impact of macroporosity on pesticide losses from tile-drained soils in the Netherlands
- Mark Egsmose: The role of EFSA in guidance development
- Ciro Gardi: Developments with respect to European datasets

Today's programme

■ Session 2

- Reinier van den Berg: Introduction to the Netherlands Environmental Assessment Agency
- Jörg Bangert: GeoPEARL_DE: a tool for spatial modelling of pesticide leaching behaviour in Germany
- Nicole Stuber: A spatially distributed leaching model for Northern Belgium
- Billo Boubacar Bah: Development of a version of GeoPEARL for the Walloon region of Belgium
- Joachim Dayteg: GeoPEARL Austria
- Marnik Vanclooster: Lessons learnt with GeoPEARL-MetaPEARL
- Gerco Hoogeweg: Use of MetaPEARL to determine relative vulnerability of groundwater in the EU

Today's programme

- **Social event**
- Ca. 19:00: dinner at “Wijn en Spijslokaal”
- Three course dinner with options





Netherlands Environmental Assessment Agency

More information at

<http://www.pearl.pesticidemodels.eu>

Contact

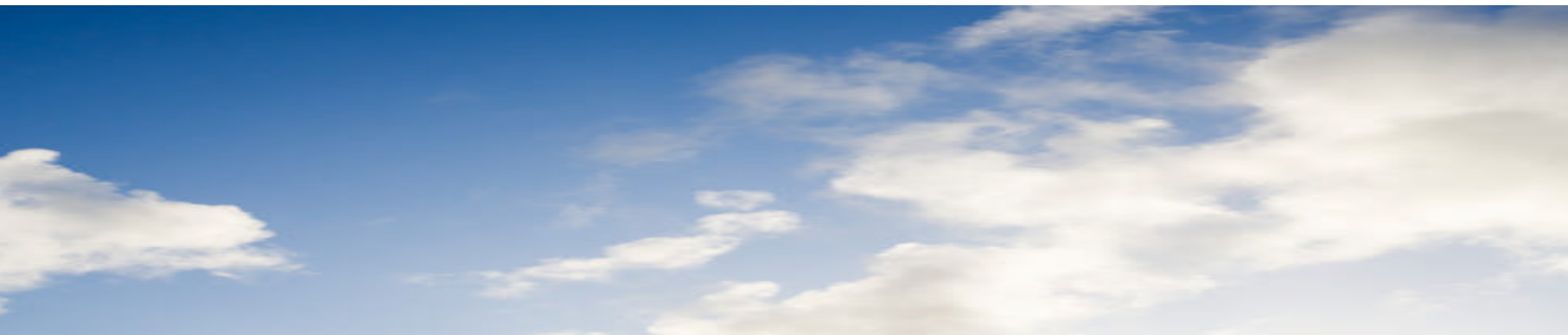
aaldrik.tiktak@pbl.nl





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Possible discussion points

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- **Interaction with the regional hydrological system**
 - Lower boundary condition
 - Drainage
 - Runoff
 - Transient boundary condition?
 - (HOST/CORPEN?)
- **Data availability – how to deal with this?**
 - Soil data – local geomatching vs. regional class matching
 - Weather data – rainfall intensity/hourly data
 - Crop data (census data)
 - Where are the “wheat areas”

Possible discussion points

- **Detail**
 - Comprehensive model vs. meta modelling
- **Do we need to take explicit account for uncertainty in pesticide and scenario properties?**
 - Validation of the model with monitoring data
- **Need to incorporate preferential flow?**
- **Resolution**
 - Detail vs. computational performance

Possible discussion points

15

- **Area of interest**
 - Arable versus agricultural
 - Exclude 'extreme' climates and how are these defined?
- **Generic or Specific PTFs?**
 - E.g. build-in bulkdensity PTF or national PTF?