

FOOTPRINT

Functional Tools for Pesticide Risk Assessment and Management

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The FOOTPRINT project



- > 3-year EU-funded project as part of FP6
- > STREP (Specific Targeted REsearch Project)
- > Started in January 2006

- > Call for research: FP6-2004-SSP-4 (Oct. 2004)
- > Priority 8: Scientific Support to Policies



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The FOOTPRINT partnership



- > 15 partners from 9 European countries
- > Pesticide fate specialists, modellers, hydrologists, hydrogeologists, agronomists, data and GIS specialists, soil scientists, climatologists, ecotoxicologists, and tool developers
- > Key features of the partnership:
 - Complementary profiles
 - Experience at the local, regional and national scale
 - Experience in the development or use of computerised tools

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The FOOTPRINT partners



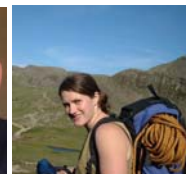
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The FOOTPRINT partners



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The grinning faces



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Project objectives



- > Overall objective: to develop a set of computer tools that will allow users to:
 - i) identify the dominant pathways and sources of pesticide contamination in the agricultural landscape.
 - ii) estimate levels of pesticide concentrations in surface water and groundwater.
 - iii) make scientifically-based assessments of how the implementation of risk reduction strategies is likely to reduce pesticide contamination of water resources.
- > Strong focus on the tools (SSP)



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Project goals






- > 1) to develop a suite of three pesticide risk assessment and management tools, for use by three different user communities:
 - Farmers and extension advisors at the local (farm) scale
 - Water managers at the catchment scale
 - Policy makers/registration authorities at the national/EU scale.
- > 2) to evaluate the usability and performance of the FOOT tools through piloting and evaluation studies at their various scales of application.




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The three FOOT tools

	 FS	 CRS	 NES
End-users	Farmers Extension advisers	Water managers	Policy & decision makers
Scale	Local (farm)	Catchment	National / EU




 > All three tools will share the same philosophy and underlying science.

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The FOOT-FS tool

- > To be used at the farm level by extension advisers and farmers
- > Emphasis on:
 1. Identifying the pathways and areas most contributing to contamination of water resources by pesticides
 2. Providing site-specific recommendations to limit transfers of pesticides in the local agricultural landscape
- > Stand-alone application & web portal

 FS
 

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The FOOT-CRS tool



- > To be used at catchment level by local authorities, stewardship managers and water managers
- > Emphasis on:
 1. Identifying the areas most contributing to the contamination of water resources by pesticides
 2. Defining and/or optimising action plans at the scale of the catchment
- > Add-on in ArcGIS



CRS

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The FOOT-NES tool



- > To be used at the large scale by EU and member states policy and decision-makers, and pesticide registration authorities
- > Emphasis on:
 1. Identifying the areas most at risk from pesticide contamination
 2. Assess the probability of pesticide concentrations exceeding legal or ecotoxicologically-based thresholds
- > Add-on in ArcGIS



NES

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Involving stakeholders and end-users



- > The relevance of the tools developed to stakeholders and end-users is key (SSP project)
- > Advisory Committee set up for those with a strong interest in the project and its associated tools
 - Level-1 members: 10 senior individuals
 - Level-2 members: 24+ individuals
 - Communities represented: regulators, researchers, water managers, the industry, extension advisers, consultancies



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Going operational



- > 3 years
- > 8 Work Packages
 - WP0: project launching and coordination
 - WP1: literature reviews
 - WP2: high-resolution scenario-based spatial zonation
 - WP3: identification of landscape features and contamination pathways
 - WP4: model parameterisation, meta-modelling and risk assessment
 - WP5: development of functional tools
 - WP6: piloting and evaluation of tools
 - WP7: communication and dissemination
- > 46 deliverables



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Some of the FOOTPRINT distinctive features

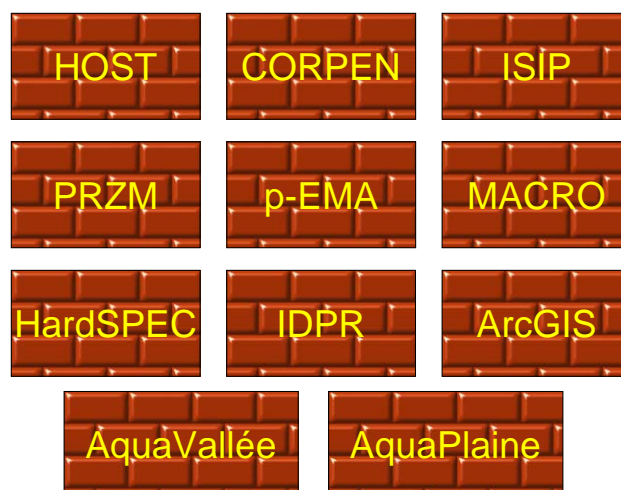


- > 3 tools, 1 philosophy
- > Tools tailored to the target audience
- > Integration of tools and methodologies developed in the various Member States and by different communities



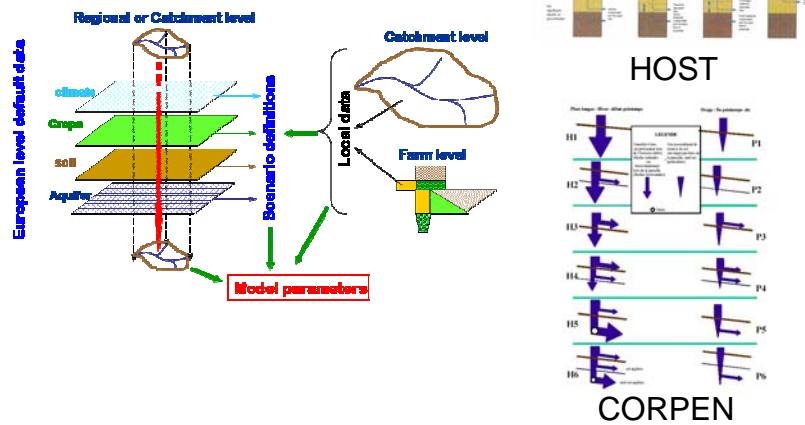
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Some of the FOOTPRINT building blocks



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Developing agro-environmental scenarios for the whole of the EU25



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Modelling (super)effort

- > Aim: to develop emulators of pesticide fate models running in seconds
- > The fate of numerous pesticides in the numerous agro-environmental scenarios will be simulated using MACRO and PRZM
- > Running models for millions of times
 - 1.5 million runs of MACRO
 - 1 computer = 170 years
 - 170 computers = 1 year
 - FOOTPRINT@work: development of a dedicated modelling architecture using idle computers (at night, at weekends, during holidays)
 - Use of high performance computers (linux clusters, supercomputers)

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Keeping up-to-date



- > Project web site: www.eu-footprint.org
- > FOOTPRINT announcement list
- > Annual newsletter
- > Talks at workshops and conferences
- > Scientific and less-scientific papers

- > Information relay workshops for each FOOT tool
- > Video tutorials for real-world applications



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Conclusions



- > An ambitious project, a highly-motivated team
- > Tools are expected to make a valuable contribution to:
 - a range of pesticide and water quality policies,
 - pesticide management/stewardship initiatives
- > Project results will be made available on the project web site as they become available



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