

FOOTPRINT

Functional Tools for Pesticide Risk Assessment and Management

Giovanna Azimonti, Martin Bach, Enrique Barriuso, Pierre Benoît, Giovanni Bidoglio, Faycal Bouraoui, Yves Coquet, Igor Dubus, Wieslaw Fialkiewicz, Hayley Fowler, Olivier François, Anker Højberg, John Hollis, Nick Jarvis, Ireneusz Kajewski, Jeanne Kjær, Jenny Kreuger, Kathy Lewis, Franc Lobnik, Polykarpos Lolos, Benoît Réal, Stefan Reichenberger, Fredrik Stenemo, Metka Suhadolc, Nicolas Surdyk & Evangelia Vavoulidou-Theodorou

Igor G. Dubus, on behalf of FOOTPRINT partners
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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



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



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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



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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



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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

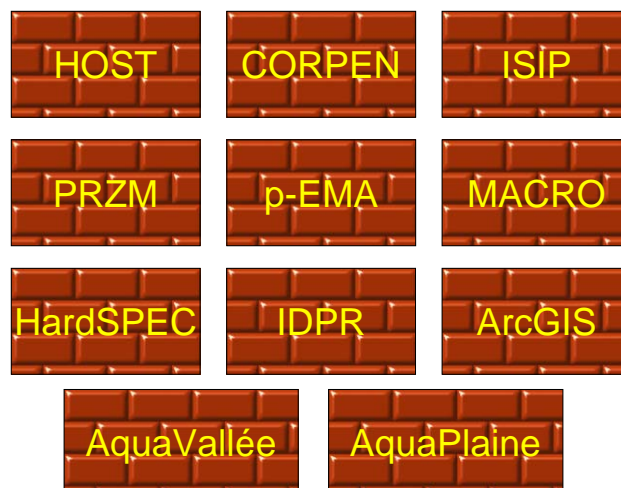


- > 3 tools, 1 philosophy
- > Tools tailored to the target audience
- > Integration of tools and methodologies developed in the various Member States and by different communities



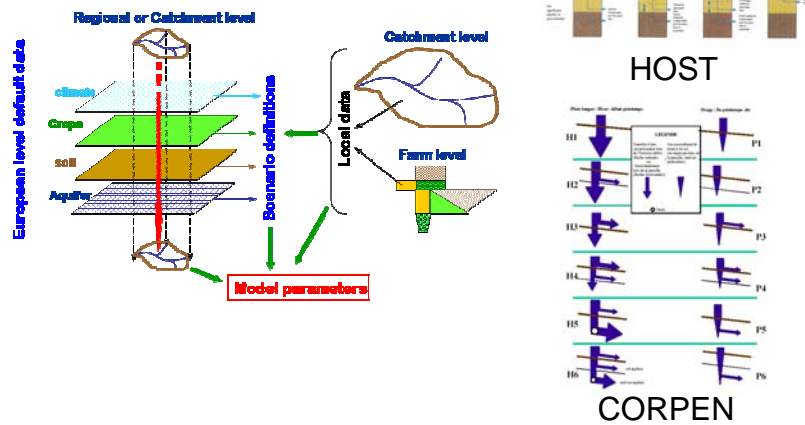
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Some of the FOOTPRINT building blocks



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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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i.dubus@brgm.fr



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