

## PROJECT

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"Freshwater Integrated Resource Management with Agents (FIRMA)".



Duration of the project

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**The FIRMA Project is supported by European Union's Framework 5 Programme for Research and Development, and by the European Commission as part of its Key Action on Sustainable Management and Quality of Water programme (contract EVK1-CT1999-00016)**

### NOTES ABOUT THE PROJECT

#### TITLE:

"Freshwater Integrated Resource Management with Agents".

#### SUMMARY:

The FIRMA project will improve water resource planning by developing and applying agent-based modelling to integrate physical, hydrological, social and economic aspects of water resource management.

It will yield insights into the social processes of water management, leading to the consideration of a wider range of aspects of the environment in decision making. It will also result in improved water management techniques including better management of water catchments.

The models will improve on existing integrated assessments by explicitly representing customers, suppliers, and government and their interaction at various levels of aggregation. This has not been attempted before and will provide new tools for policy makers concerned with issues such as waste water, water scarcity and integrated catchment planning. The project will adopt a participatory approach to ensure that its outputs are of value to stakeholders. A generic model will be developed and applied in five contrasting regions in Europe. The outputs will include the prototype models in the form of tools usable by managers, a methodology for developing and applying agent-based models, and educational materials for water resource managers and modellers.

#### **OBJECTIVES:**

- To further cooperation between water resource decision makers and experts in water resource management and in agent-based social simulation.
- To analyse hydrosocial issues of waste water treatment, water scarcity and integrated catchment planning in selected regions and assemble the data required for agent-based modelling.
- To develop agent-based models for application to issues of water treatment, scarcity and planning.
- To carry out participatory integrated assessments in five selected regions, involving stakeholders, scientists and agent-based modelling experts.
- Based on the experience gained, to compare the management of water and to develop a methodology for the agent-based simulation of water resource issues in Europe.