



# Farm Level Optimal Water Management: Assistant for Irrigation under Deficit (FLOW-AID)

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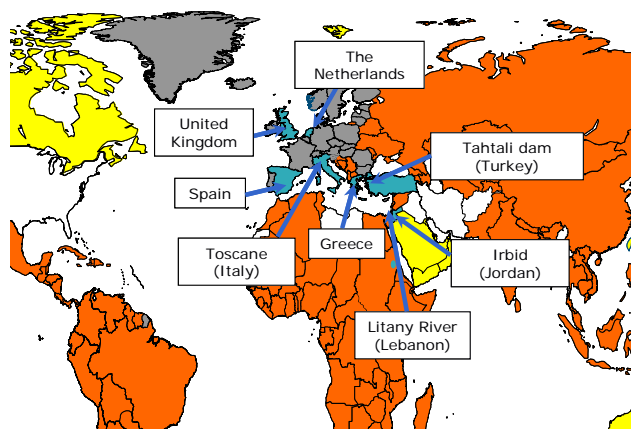
## Objectives

- Sustainable irrigated agriculture for low water availability and quality
- New, simple and affordable sensor technologies
- Decision Support System for deficit irrigation
- Evaluation in semi-arid Mediterranean countries

## FLOW-AID system

In view of the expected water availability (amount and quality) the system allocates available water among several farm zones and schedules irrigation for each individual zone. The following tools are being developed by partners from the Netherlands, United Kingdom, Spain, Italy and Greece:

- An expert system to assist farm zoning and crop planning
- A short-term irrigation scheduling module
- A crop response model for deficit irrigation
- A low-power wireless sensor network
- A maintenance free tensiometer
- Smart real-time and remote irrigation controllers



These tools are evaluated at test-sites in 4 Mediterranean countries: Italy, Turkey, Lebanon and Jordan, which are chosen in such a way that they differ in the type of constraints, irrigation structures, crop types, local water supplies, availability of water and water sources, in amount and quality, the local goals, and their complexity.



The work is carried out between 2006 and 2009 as a 6<sup>th</sup> Framework European project (no. 036958) under the call for water in agriculture, new systems and technologies for irrigation and drainage (FP6-2005-Global-4, PRIORITY II.3.5).

## Benefits

- Maximum crop yield and economic profit under given constraints
- Optimal water gift when marginal water resources are being used
- Generic tools, adaptable to local situations
- For open field, as well as protected crop production systems



Wireless sensors in container crops at testsite Italy



Dual water quality irrigation at testsite in Jordan



Real-time irrigation controllers in a cucumber greenhouse (Turkey)

## Partners