



Centro Euro-Mediterraneo  
per i Cambiamenti Climatici



# ICARUS – IWRM for Climate Change Adaptation in Rural Social Ecosystems in Southern Europe

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FEEM  
Venice, 13 October 2011

# The problem

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Water resource management: significant challenge for the development of populations in Southern Europe

Increasing demand for water:

- Irrigated agriculture

- Intensive urbanisation

- Tourism

Less water availability – CC

Reduced food security, agro-industrial employment at risk, damage to the ecosystem, increased desertification, biodiversity loss...

Need for policies to increase the efficiency of water management

# Project goals

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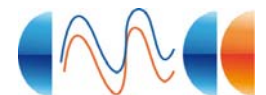
## Increase efficiency of water use in agriculture

- Analysis of biophysical, social, economic, and institutional dimensions of sustainable water management
- Identification of innovative adaptation strategies, practices and tools for saving water in irrigated production systems

## Supporting WFD implementation

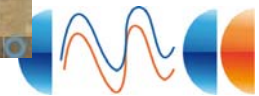
- Exchange of experiences
- Broadening range of methods and tool for water managers
  - Evaluation of different methods
  - Enhance usability
  - Integrate CC's impact scenarios

***Focus on IRRIGATION and WATER SAVING in the MEDIUM term  
(2010-2025)***

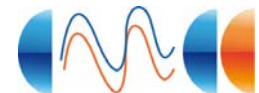
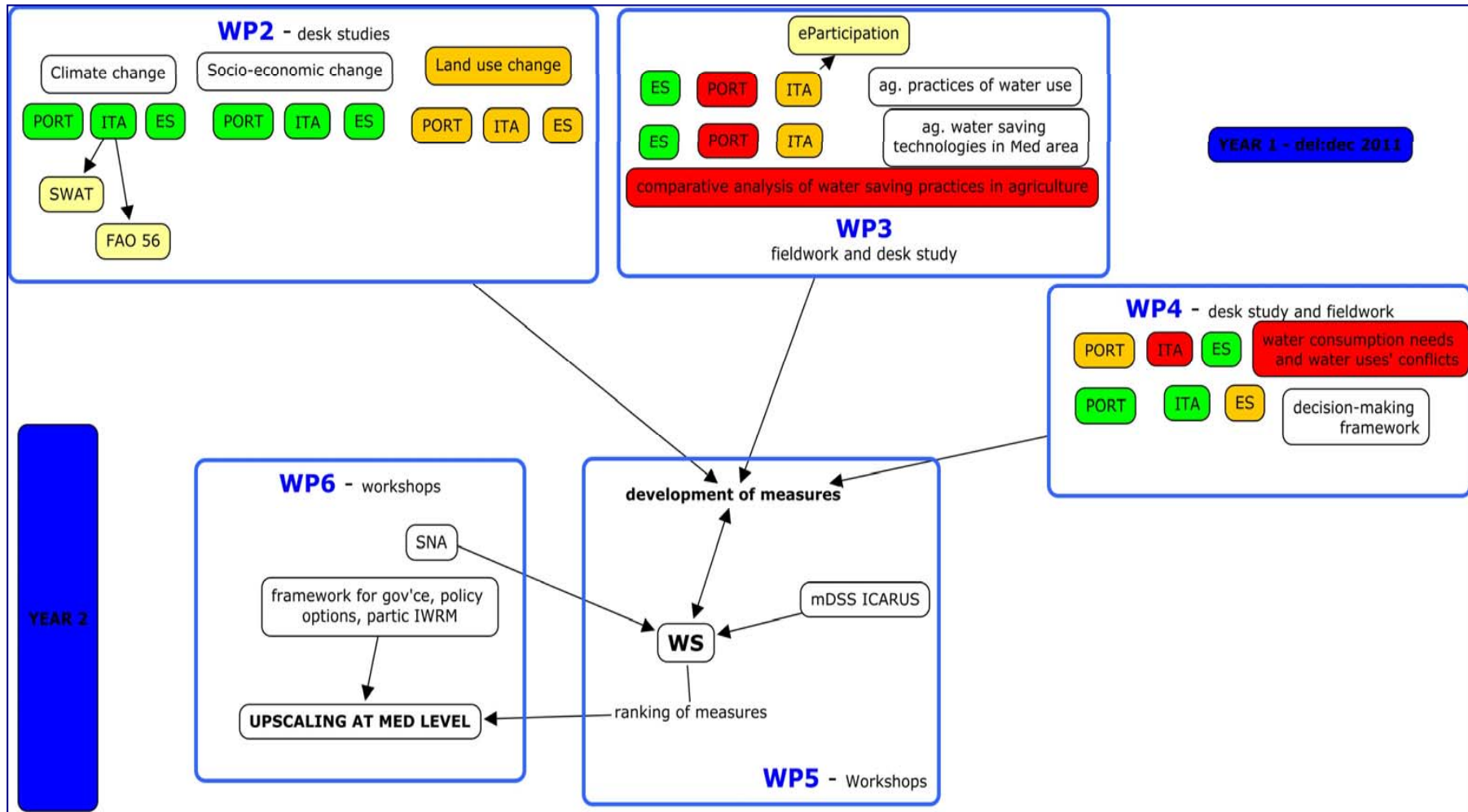




# The case studies



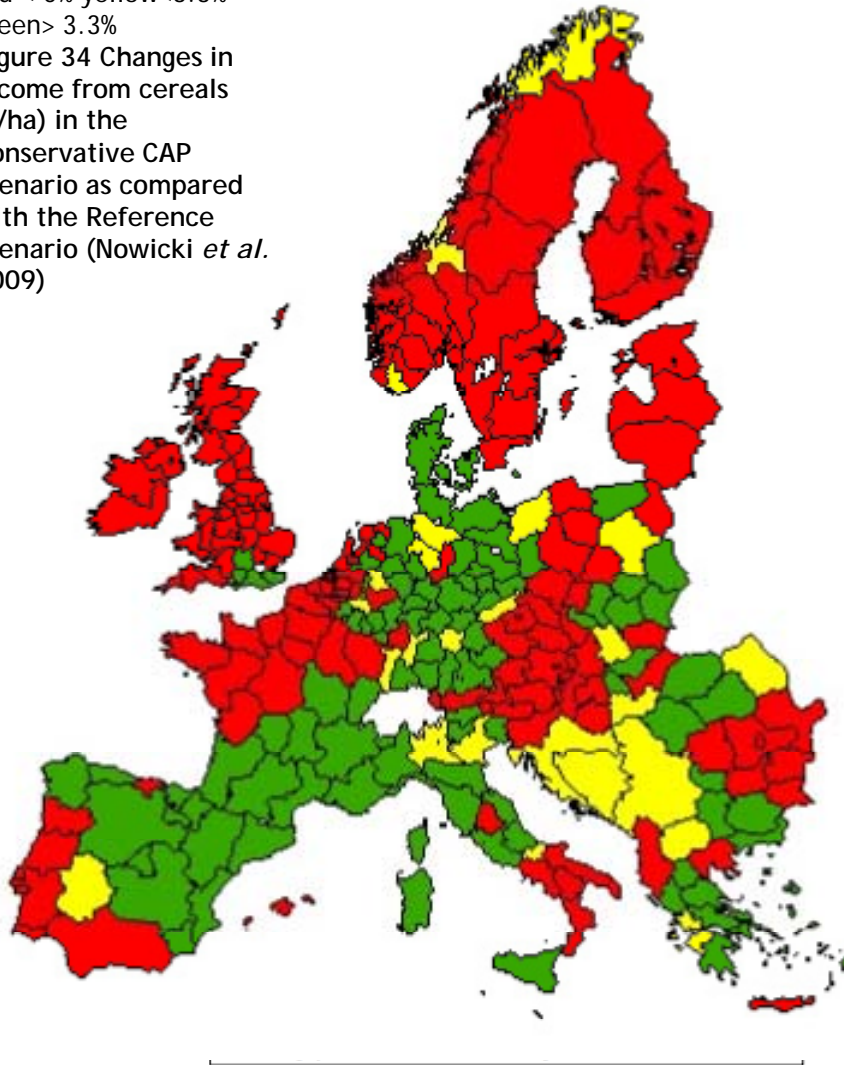
# Project's activities



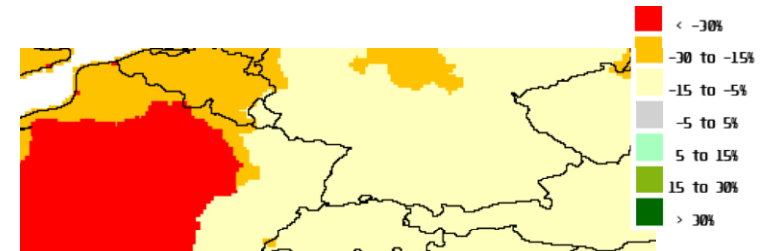


# Preliminary results from WP2

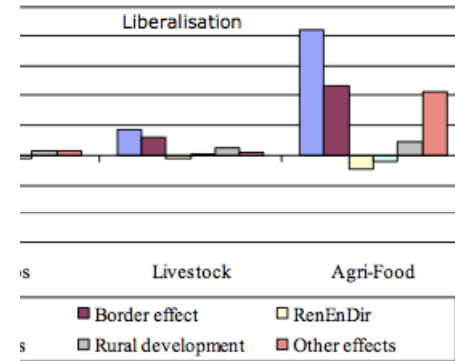
red < 0% yellow < 3.3%  
 green > 3.3%  
 Figure 34 Changes in income from cereals (€/ha) in the Conservative CAP scenario as compared with the Reference scenario (Nowicki *et al.* 2009)



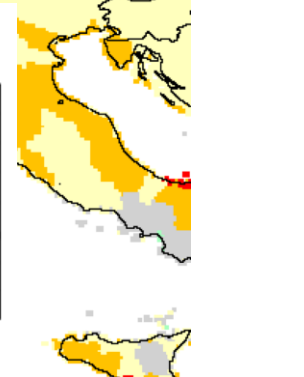
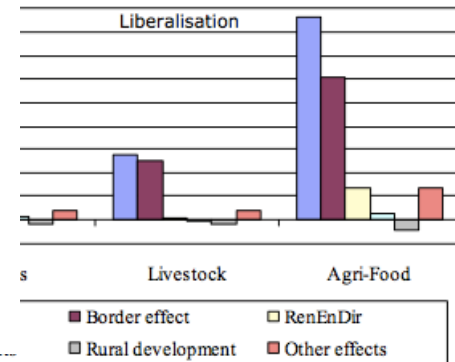
Source: LEITAP results.



... and Liberalisation scenario, in billion USD.



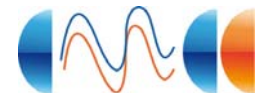
... and Liberalisation scenario, in billion USD.



Change in mean water availability in autumn (IPCM4, A2 scenario, 2025s)

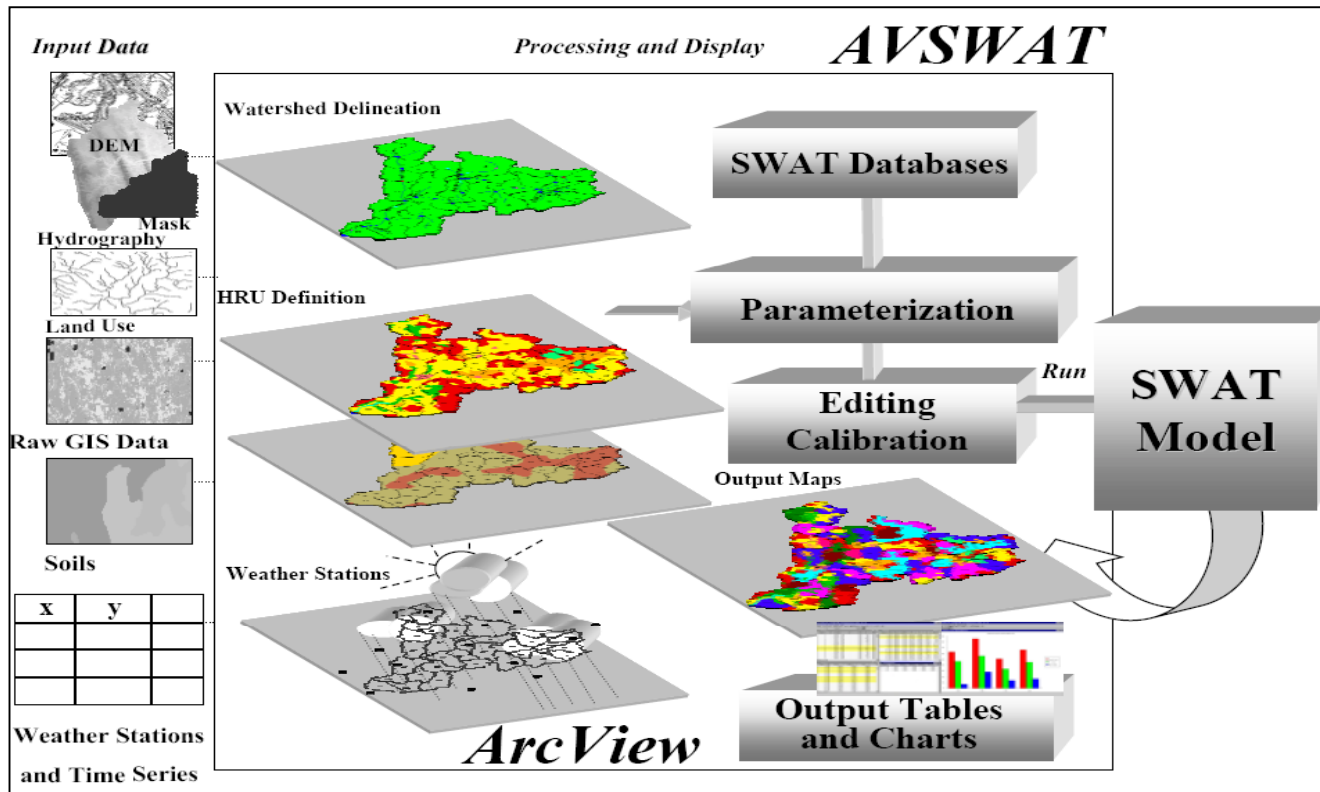
Scale 1 : 102  
 Date: 20.07.2011

Printed from the SCENES Webservice  
[http://www.cesr.de/SCENES\\_WebService/](http://www.cesr.de/SCENES_WebService/)



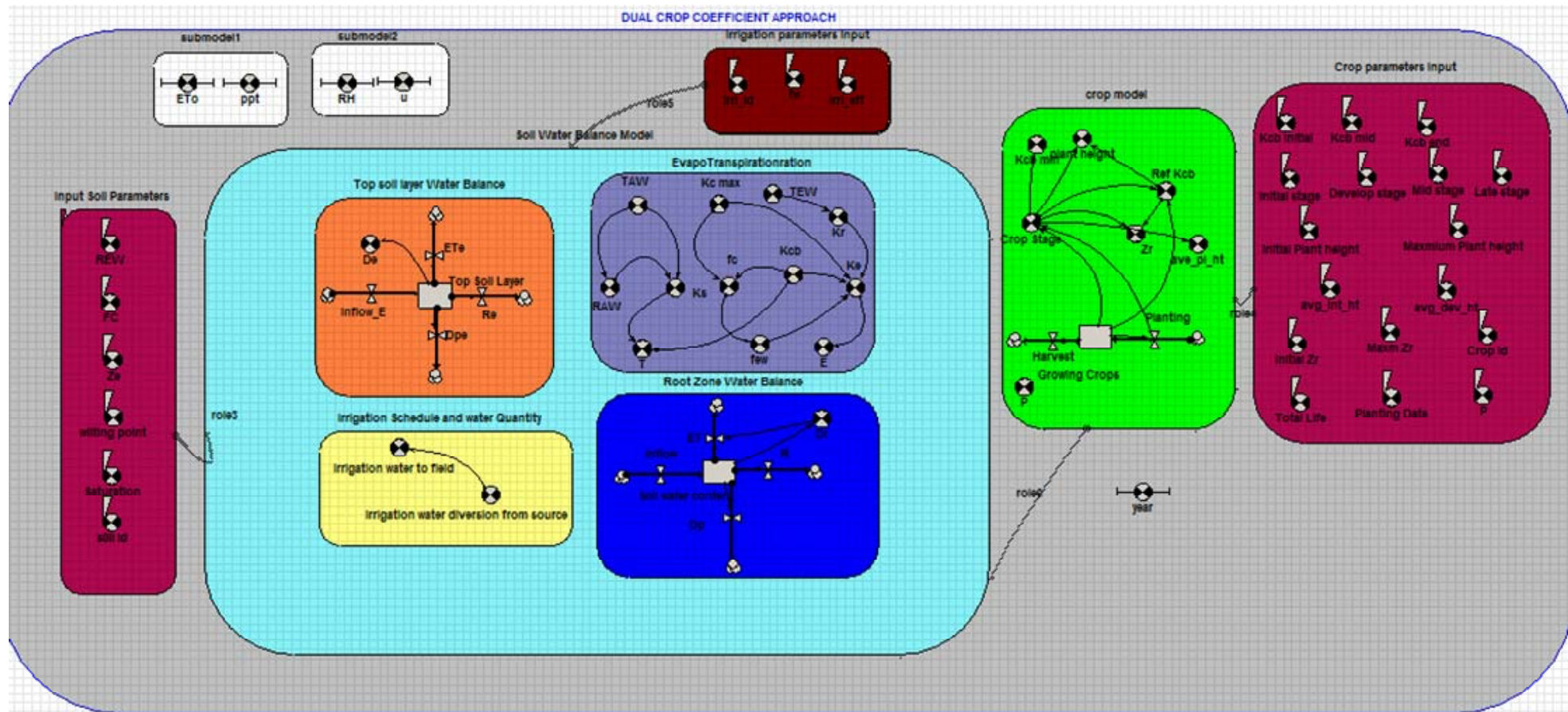
# Ex. of current activities: the SWAT model

## Soil and Water Assessment Tool



- Physically based
- Dynamic model
- Basin scale simulations
- Simulations down to daily scale

# Side efforts: Agro Hydrological model in Simile

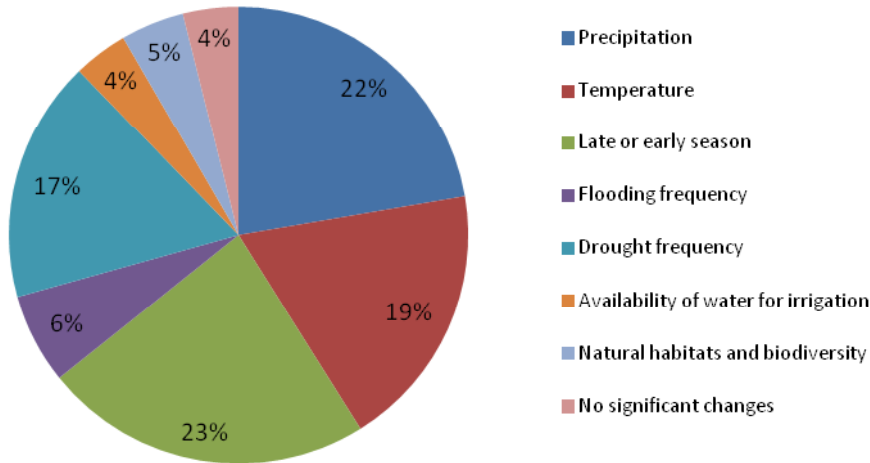


Physically based  
 Dynamic model  
 Field level  
 Simulations down to daily scale

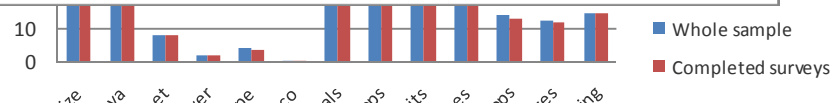
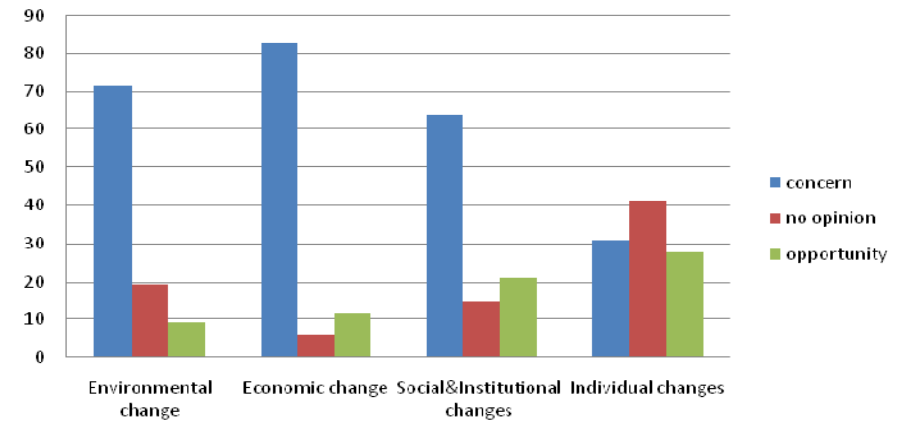


# Experimenting a new approach: eParticipation

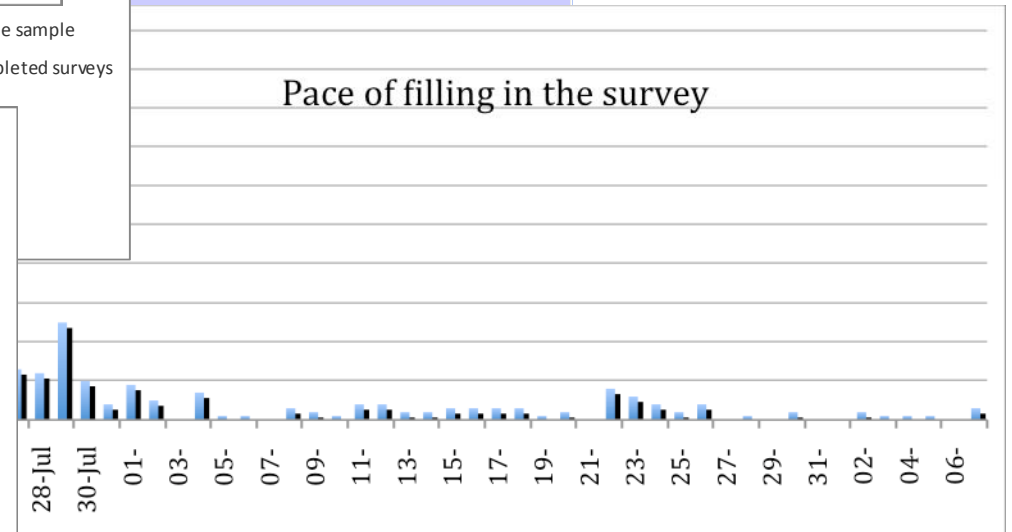
Environmental changes



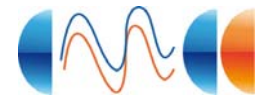
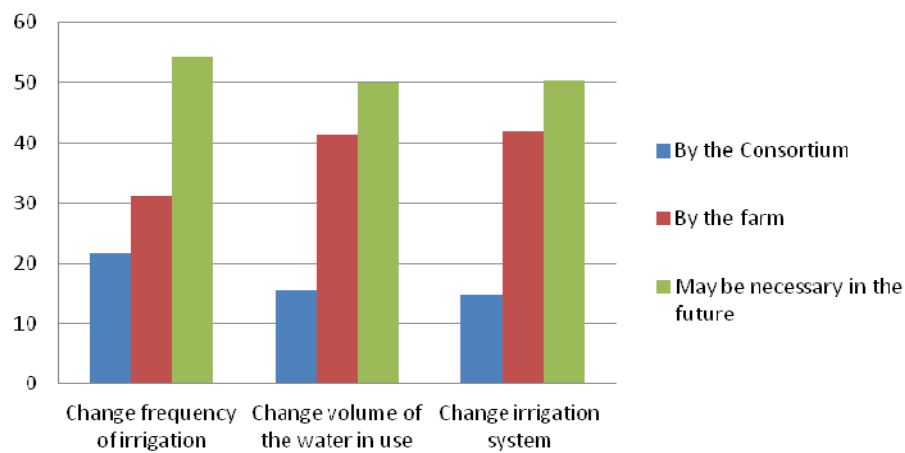
Opinion over changes in next 5-15 years



Pace of filling in the survey



Water management change





**Thank you!**

**<http://www.cmcc.it/research/research-projects/icarus-1/icarus>**

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