



CONFEDERACIÓN HIDROGRÁFICA DEL TAJO





# Pilot project on water balances in the Tagus River Basin

# **PROTAGUS**

Kick-off meeting 5 February 2014 Brussels





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# Introduction to the project:

#### PARTNERS:

- > EVREN (SME)
- Tagus River Basin Authority (CHT)
- Agencia Portuguesa do Ambiente, I.P.
- United Nations Office to Support the International Decade for Action "Water for life" 2005-2015.

#### **COORDINATOR:**

> EVREN, S.A

#### **OBSERVERS:**

- Sub-Directorate on Planning and Sustainable Use of Water (Directorate General for Water, Ministry of Agriculture, Food and Environment)
- Júcar River Basin Authority (CHJ)





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### **EVREN:**

- Environmental Consulting Firm (SME).
- 25 years of experience.
- Offices in Spain (Madrid, Valencia) and Ecuador (Quito).
- Areas of work:
  - Water resources, international projects, agronomy and forest resources, coastal management, land planning, solid wastes, sustainable touristic developments, environmental impact assessment studies, industrial environment,
- Projects developed for the Spanish Ministry of Agriculture, Food and Environment, River basin authorities, regional governments, international entities (EC, Plan Bleu-UNEP, World Bank...).
- Beneficiary of the previous 2011 grants.
  - Halting Desertification in the Júcar River Basin (HALT-JÚCAR-DES)









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# Tagus River Basin Authority:

- Spanish river basin organisation.-Ministry of Agriculture, Food and Environment. Autonomous public entity.
- Duties:
- Elaborating the River Basin Management Plan, as well as its reviews and follow-ups
- Administrating and controlling the hydraulic public domain
- Administrating and controlling the uses of general interest or uses that affect more than one Spanish Autonomous Region
- Developing water projects, constructing them and managing related infrastructures charged to the Authority own funds, and constructing other public works entrusted by the Government.
- Developing other functions derived from agreements with Autonomous Regions, local Corporations, and other private or public entities.





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# Agencia Portuguesa do Ambiente:

- > Competences:
- Planning of water resources
- Monitoring
- Licensing
- Infrastructure management
- Surveillance
- Information and participation







MINISTÉRIO DO AMBIENTE, ORDENAMENTO DO TERRITÓRIO Relatório de Estado do Ambiente 2013 Aceda ao documento em www.apambiente.pt





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# United Nations Office to Support the International Decade for Action "Water for life" 2005-2015:

- ➤ Main objective: to promote support activities and goals under the Decade for Action "Water for life" 2005-2015.
- ➤To promote efforts to fulfill international commitments made on water and water-related issues by 2015.
- ➤ The interest of involving the UN office in PROTAGUS is:
  - Provide a direct exchange of views with a UN entity on the System of Environmental-Economic Accounting for Water (SEEA-Water) to generate water accounts







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#### **SCALE** of the project:

#### **Tagus International River basin District**

> Surface:

- In Spain: 55.781 km<sup>2</sup>

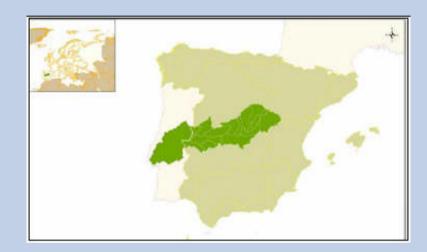
- In Portugal: 25.666 km<sup>2</sup>

> Population:

- In Spain: 7.833.089 inhabitants

- In Portugal: 3.485.816 inhabitants

➤ Albufeira Agreement (1998): to improve the cooperation between the Governments of Portugal and Spain, to encourage the sustainable use of shared water courses and, maintain and improve the ecological status of shared water bodies.



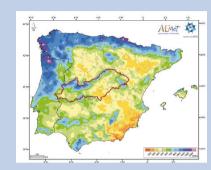




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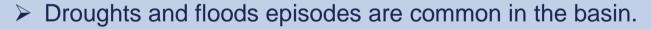






#### **Tagus River basin**

- Mediterranean continental climate.
- > Important variability in temperature (dry summers and cold winter).
- > Average precipitation: 648 mm/year.
- ➤ Total average annual contribution of 10.210hm³ (1940-2006), and a reservoir storage capacity of 11.000hm³ (Spanish part).



- ➤ The main water demands are public supply (Madrid and Lisbon metropolitan areas), agriculture, industrial uses and other (energy plants, aquiculture and recreational uses).
- Inter-basin transfers (transfers water from the Tajo to the Segura river).





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# Aims of the PROTAGUS project:

- Improve desertification knowledge on the Tagus River Basin (Midwest of Spain and central Portugal) through the development of water balances.
- Obtain and assess environmental and climatic data, use systems/models and provide recommendations to save water resources.

# Expected results:

- Relevant water balance tables for the Tagus River Basin.
- Innovative solutions to data gathering and integration.
- Assessment of how the River Basin Authorities have integrated quantitative water management issues in the preparation of the 2015 River Basin Management Plans
- Works that might support reporting and data sharing, developing and disseminating knowledge and tools for specific areas such as economic analysis, water balances, hydroeconomic modelling, etc.





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## Main activities:

- Establishment of the context and background
- Data gathering process
- Build-up of water accounts
- > Training, dissemination and meetings

# Meetings:

➤ Technical meetings will be organised with partners and entities to check collected data, identify management, technological and economic measures and later review proposed recommendations and optimisation targets. In addition, dissemination activities will be organised.



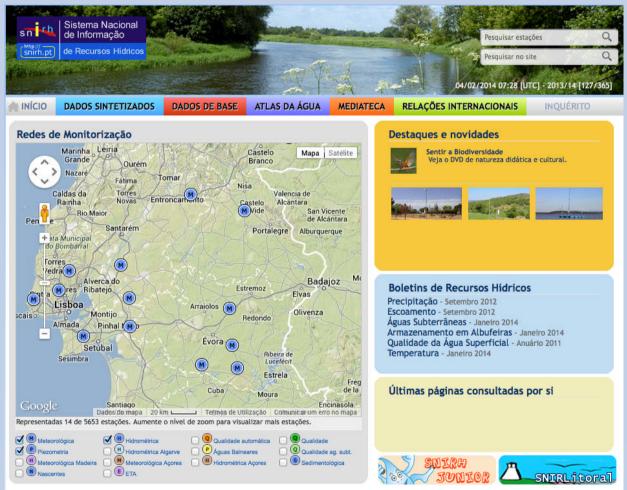


GOBIERNO MINISTER
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MINISTERIO DE AGRICULTURA, ALIMENTACIÓN Y MEDIO AMBIENTE CONFEDERACIÓN HIDROGRÁFICA DEL TAJO







Public Information Systems (Portuguese example)

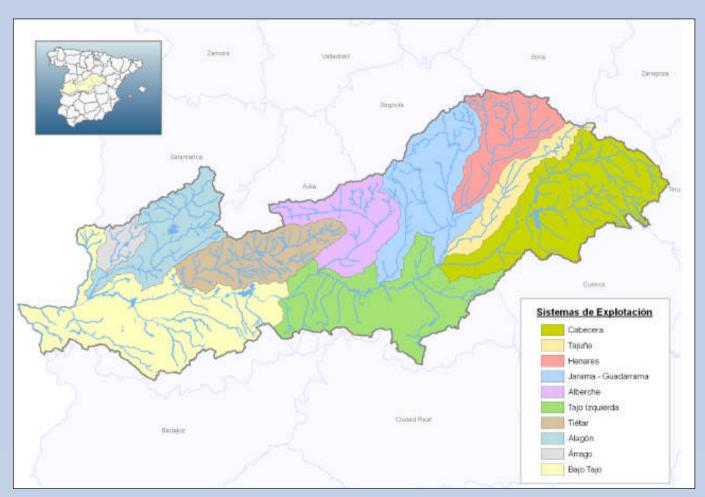




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Water Management Systems (Spanish territory)





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EVREN EVALUACIÓN DE RECURSOS NATURALES





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#### **PROCESS**

#### Data harvesting

- · Hydrological and Socio-economic
- Public sources (http://snirh.pt, http://www.ersar.pt/website/, http://www.ine.es, ...)
- Partners data (Tajo, Tejo)

#### Data processing / Model data

- · Arrange, Organise, Transform (units, spatial or temporal scale),
- Auxiliary variables / flows between elements not measured / close balances
- · Aggregated data to minimum unit of work

#### Results / Dissemination

- Standard Tables SEEA-Water, Uncertainties
- · Workshop meeting





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## **DATABASES**

Sources data Standardized Model data Result data (heterogeneous (SQL, plain text) (SQL, Excel) database) (SQL) Transformed to Multiples Table format of Arranged temporal and SEEA-Water sources spatial scale Auxiliary variables Many formats / Organised Uncertainties ráw data Aggregated data to Diverse units of Transformed minimum unit of (e.g. units) measure work Different spatial and temporal scales





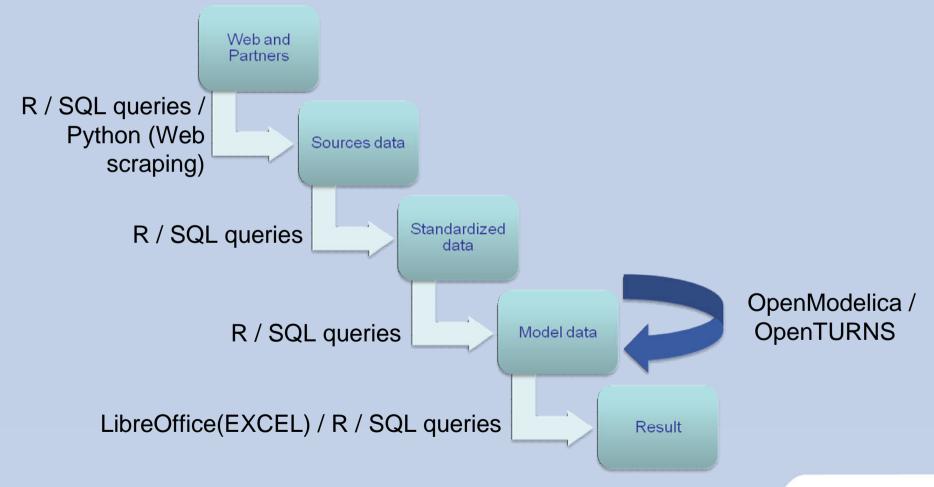
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#### **SOFTWARE**







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# Thank you!

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