



INTEGRATED WATER MANAGEMENT TOOLS IN THE MEDITERRANEAN

Javier Ferrer Polo. Jucar River Basin Water Commissariat

20/09/2012. MENBO Workshop:

Tools to support and improve IWRM: STRATEAU and AQUATOOL



INDEX

- Integrated Water Resources Management (IWRM) approach
- IWRM Case Study: Vinalopó – Alacantí area
- IWRM Case Study: Mancha Oriental aquifer

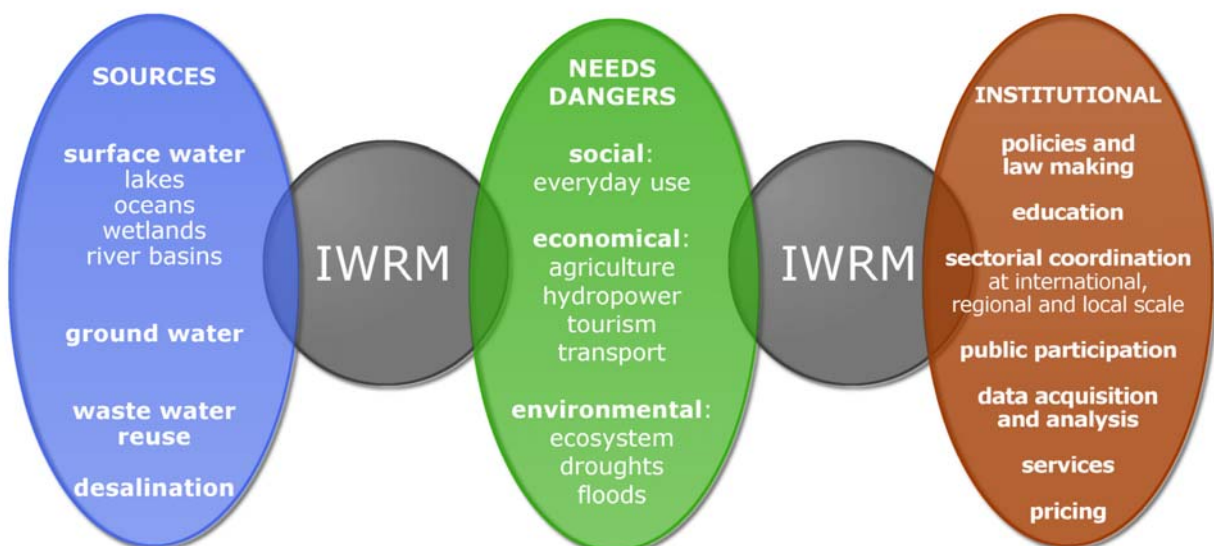


What's considered an Integrated Water Resources Management?

- IWRM helps to manage and develop water resources in a sustainable and balanced way, taking into account of **social, economic and environmental** interests.
- It recognises sectors that use and **abuse water**, and the needs of the **environment**.
- Coordinates water resources management **across sectors** and interest group at different scales, from local to international.
- Emphasises involvement in **national policy and law making** processes establishing good governance to more equitable and sustainable decisions.



Integrated Water Resources Management (IWRM) Summary Chart



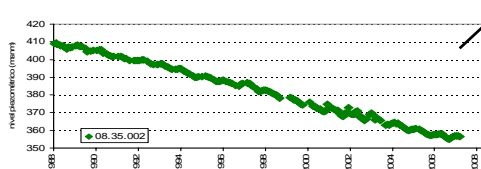
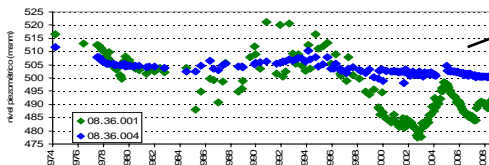
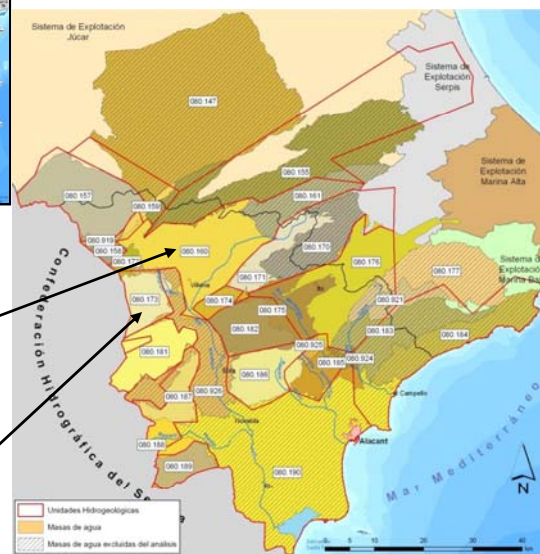


Vinalopó – Alacantí Area



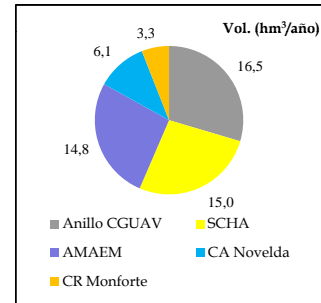
Vinalopó – Alacantí area

Severe decreases in aquifer's water levels have been produced as a consequence of an intensive underground water exploitation for urban and agricultural uses





Main water distribution water pipes in the Vinalopó-Alacantí system

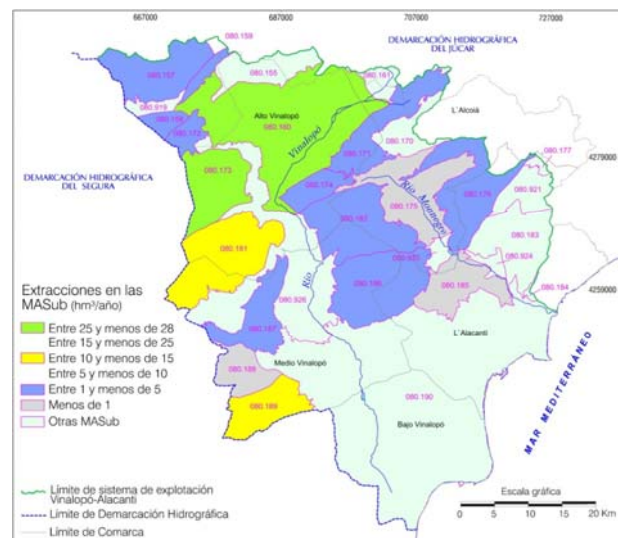
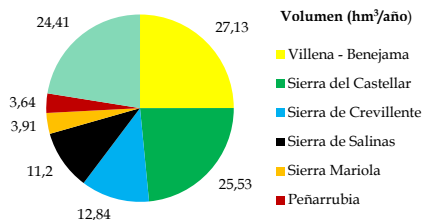


Distributed water volumes



Underground Water abstractions

- Total under groundwater abstractions: 109 Mm³/year
 - agriculture: 68,5 Mm³/year
 - urban use : 40,5 Mm³/year
- 243 points for abstractions control (78% of total abstraction is measured)





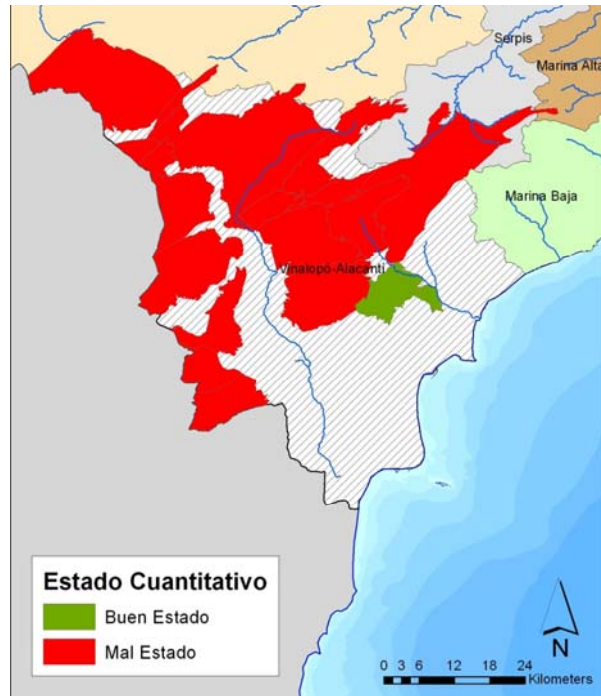
Quantitative Groundwater body status

Renewable water resource

- Total resource 73,5 Mm³/year
- Main resources are concentrated in the upper side of the basin

Quantitative Groundwater body status

- 16 GB in bad status
- only 1 GB in good status (Agost)



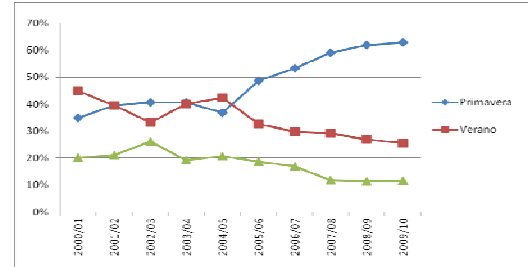
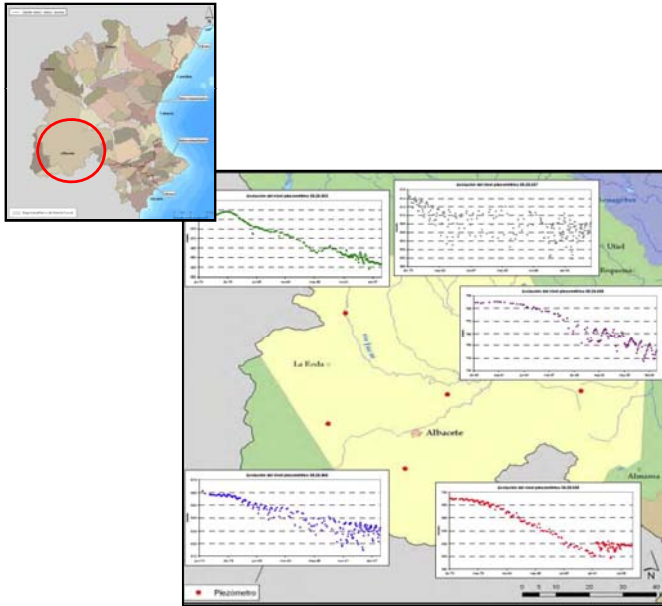
Measures: Júcar- Vinalopó Water Transfer

- Maximum water transfer volume: 80 Mm³

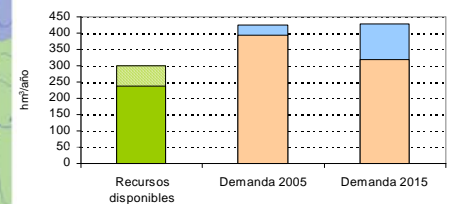
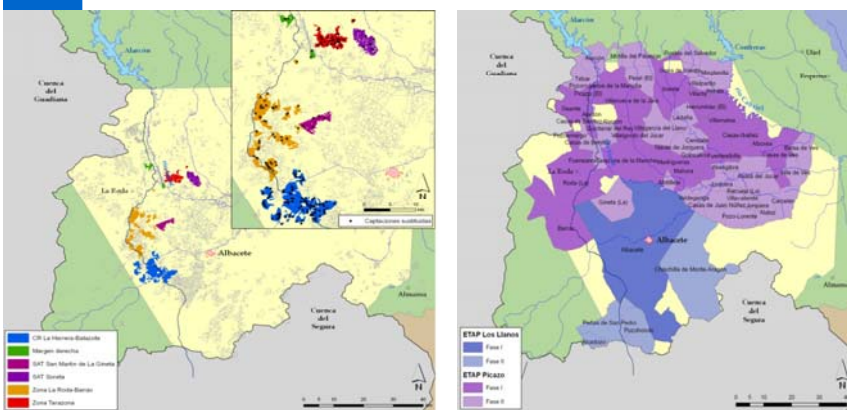




- Severe decreases in piezometers levels, have caused affections to water quality, and to the guarantee for water supplying in existing exploitations, both urban and agricultural destination.



•Evolution for the percentage of the herbaceous crops in Mancha Oriental aquifer



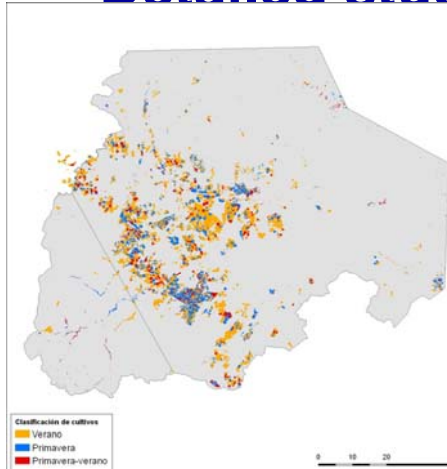
- Range of available resources
- Underground water abstractions
- Surface supplies

- Modernization of irrigated areas
- Substitution of underground water resources by surface resources
 - Urban: Albacete and its influence area and the North side of Mancha Oriental aquifer
 - Agriculture
- Measures for control of abstractions
 - Remote sensing
 - Water use criteria
 - Annual crop plan
- Exceptional measures for drought periods: OPAD
- Measures for improving knowledge

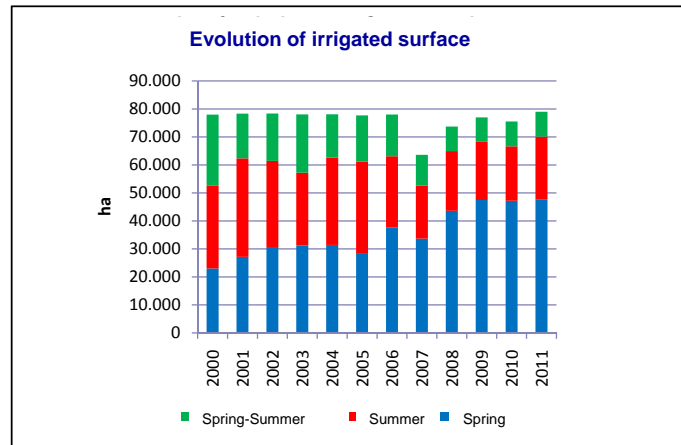
Measures



Detailed studies with remote sensing



- Joint Commission: participation of the Administration, Users and of the Universities



Conclusions

Importance of IWRM in CHJ

- Joint use of every water resource sources
- Monitoring & Control
- Properly analysis of environmental water requirements
- Need of governance tools:
 - Legal framework
 - Shared management with users
- Need of serious economic analysis:
 - Viability of productive uses
 - Recovery of costs