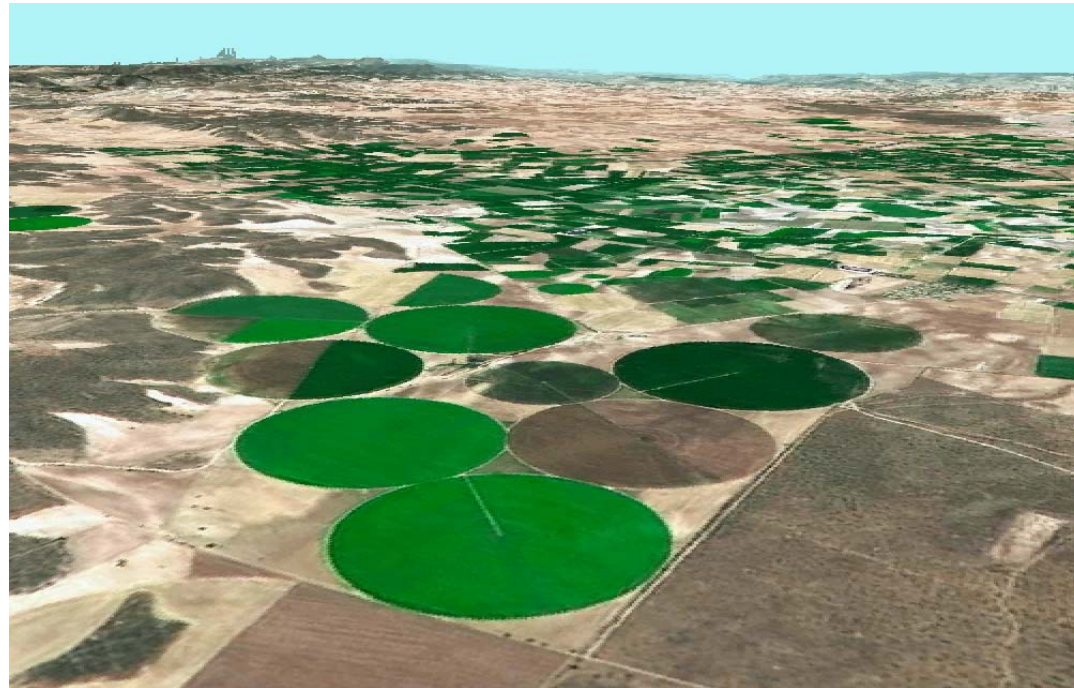




## **WATER AND AGRICULTURE MANCHA ORIENTAL AQUIFER: PLANNING AND MANAGING ACTIONS SHARED WITH USERS**



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Head of the Hydrological Planning Department  
Júcar River Basin Authority. Spain

**Seminar of the European River Basin  
District Authorities**

**Beirut, 7-8 th October, 2009**



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**IV.- PUBLIC OFFER FOR AQUISITION OF WATER RIGHTS**

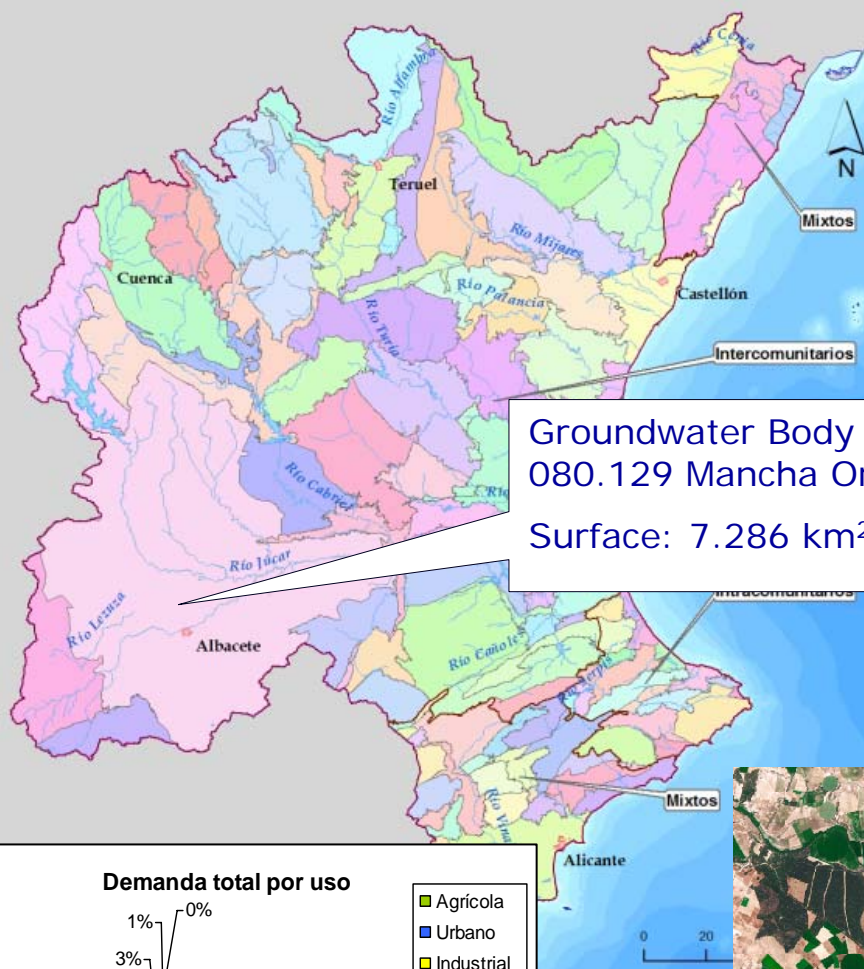
**V.- NEW BASIN PLAN AND CONCLUSIONS**



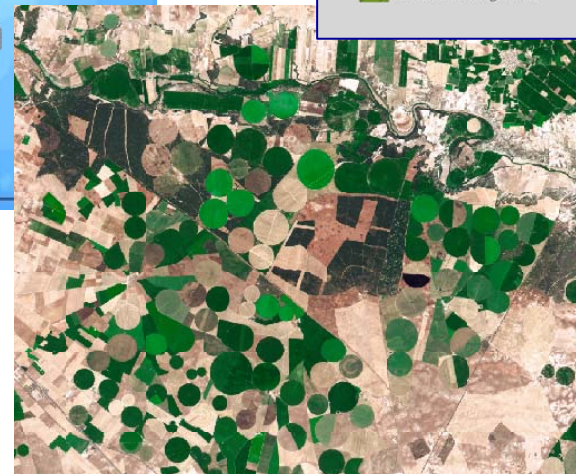
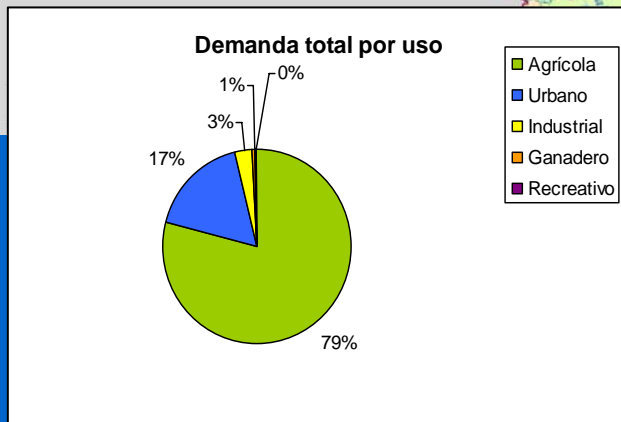
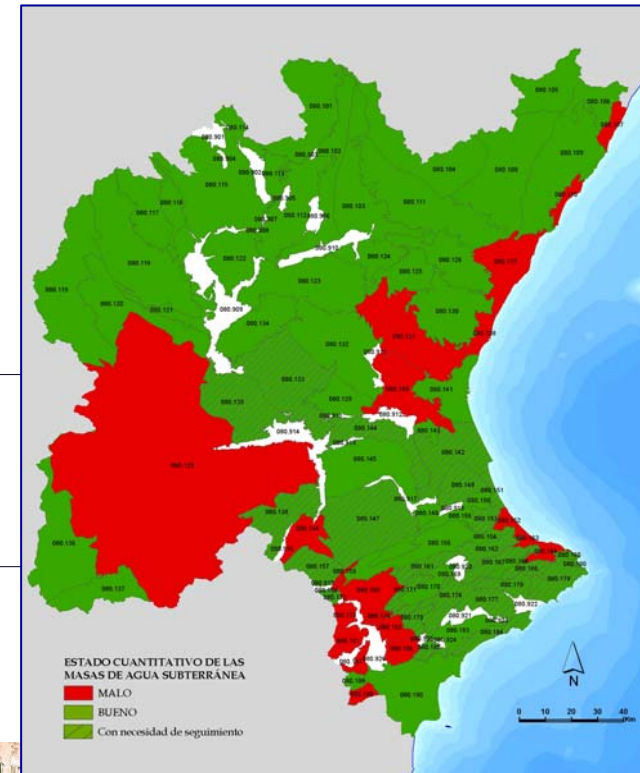
# MANCHA ORIENTAL AQUIFER



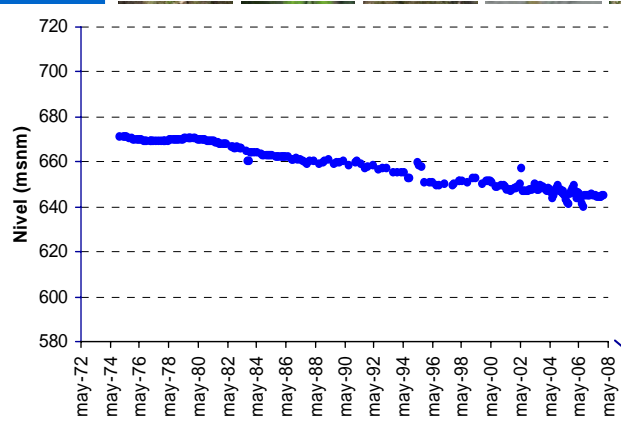
CONFEDERACIÓN  
HIDROGRÁFICA  
DEL JÚCAR



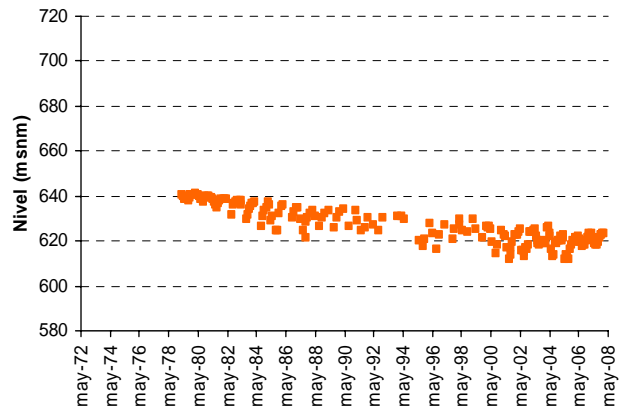
Groundwater Body  
080.129 Mancha Oriental  
Surface: 7.286 km<sup>2</sup>



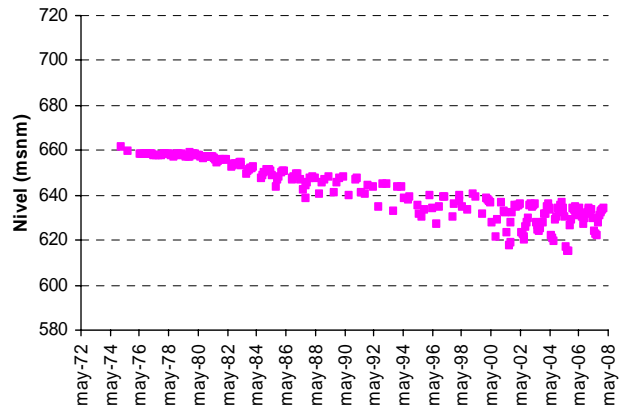
# MANCHA ORIENTAL AQUIFER



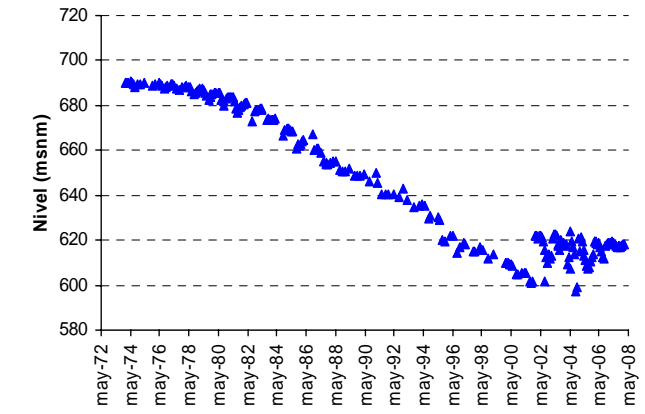
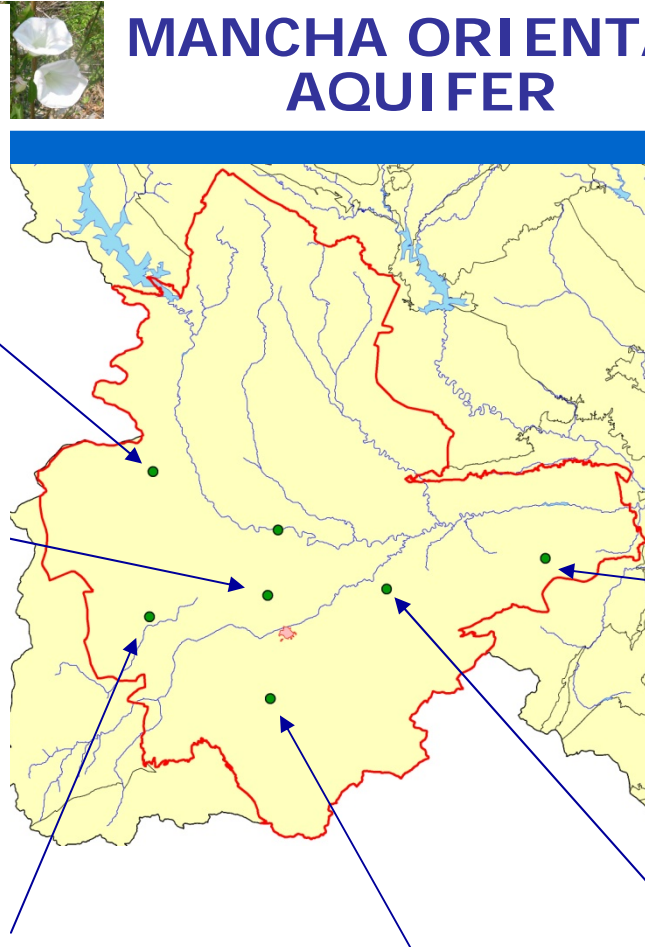
• 08.29.055 (T.M. Roda (La))



■ 08.29.056 (T.M. Albacete)

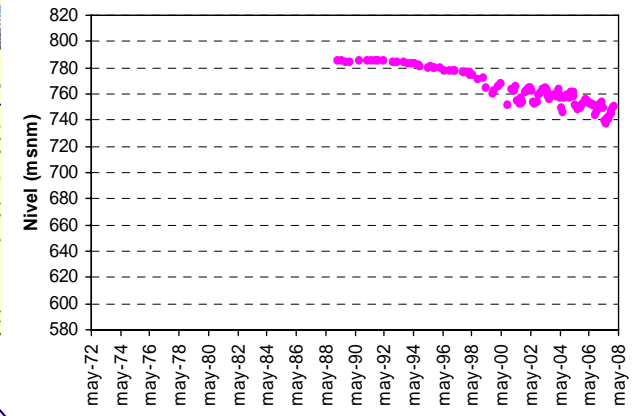


■ 08.29.059 (T.M. Barrax)

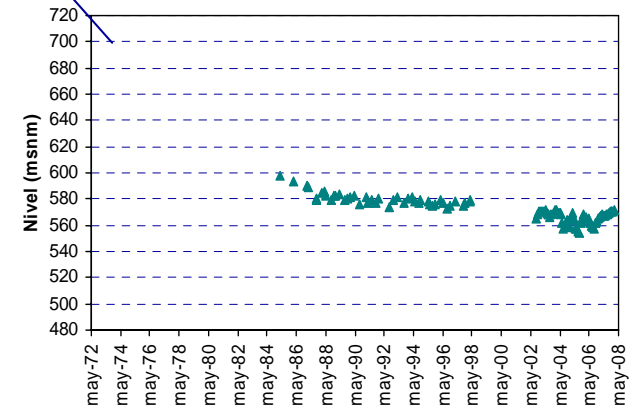


▲ 08.29.036 (T.M. Albacete)

## Piezometric levels evolution



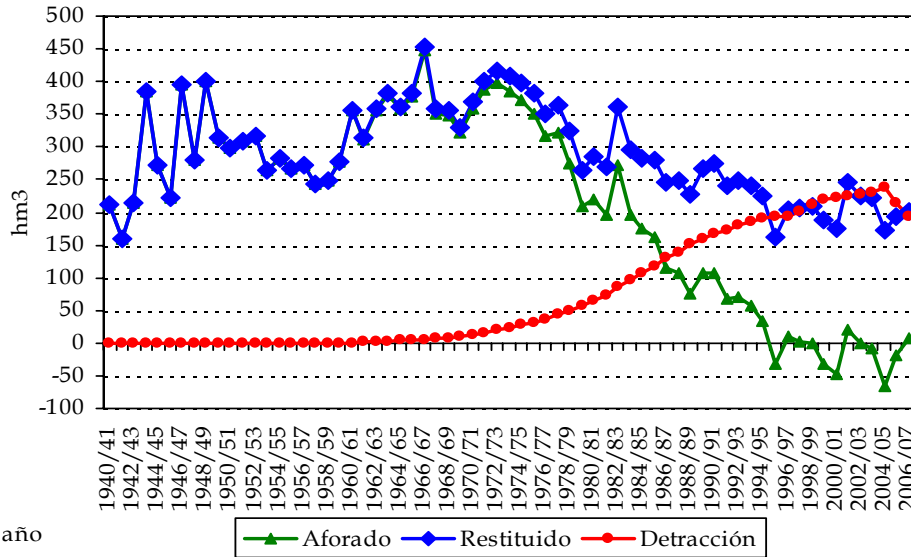
• 08.29.038 (T.M. Carcelen)



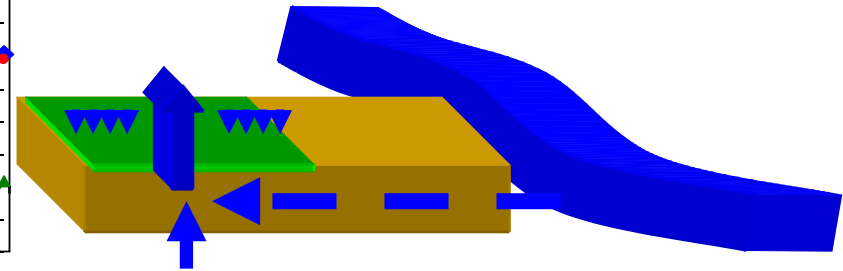
▲ 08.29.080 (T.M. Valdeganga)



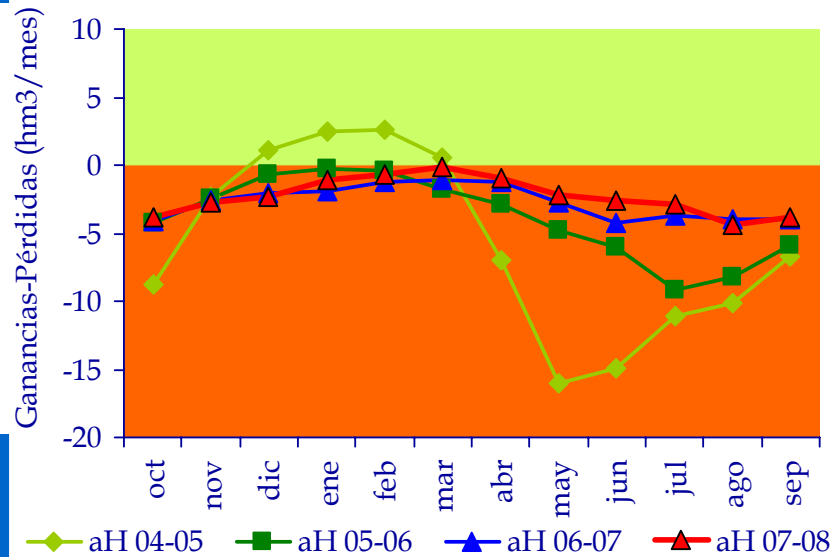
# MANCHA ORIENTAL AQUIFER



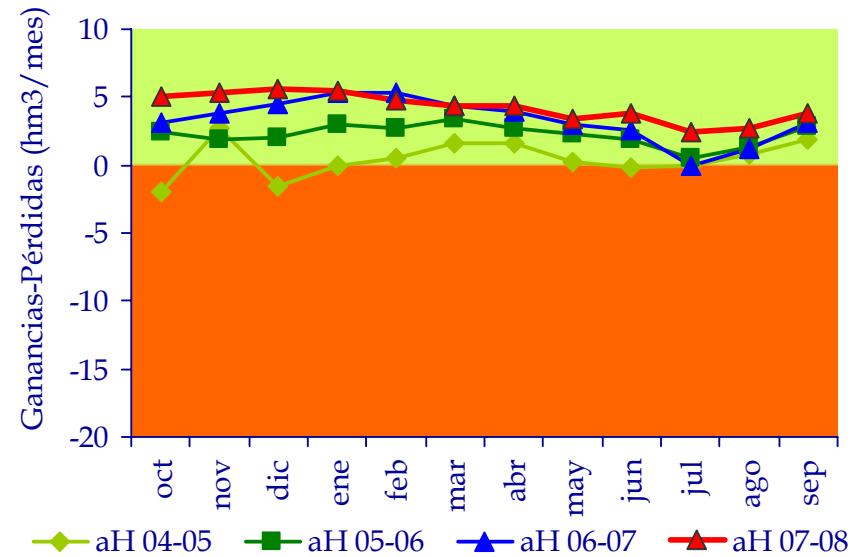
**Important relationship  
river-aquifer**



Picazo - Los Frailes



Los Frailes - El Molinar





## Hydrological Júcar Basin Plan

Need to limit extractions and ensure sustainability to the aquifer and its exploitation

Hydrological Basin Plan in Júcar, Royal Decree 1664/1998 of 24 July, art. 24

Water resources in Mancha Oriental Aquifer

- 320 hm<sup>3</sup>/year of groundwater resources
- 80 hm<sup>3</sup>/year of surface resources for the substitution of pumping
- Reserve of 65 hm<sup>3</sup>/year for the consolidation of existing irrigation and possible irrigation of Royal Decree 950/1989 included in the National Irrigation Plan (PNR).
- 1 m<sup>3</sup>/s supply Albacete city

Integration in only users' community: JCRMO

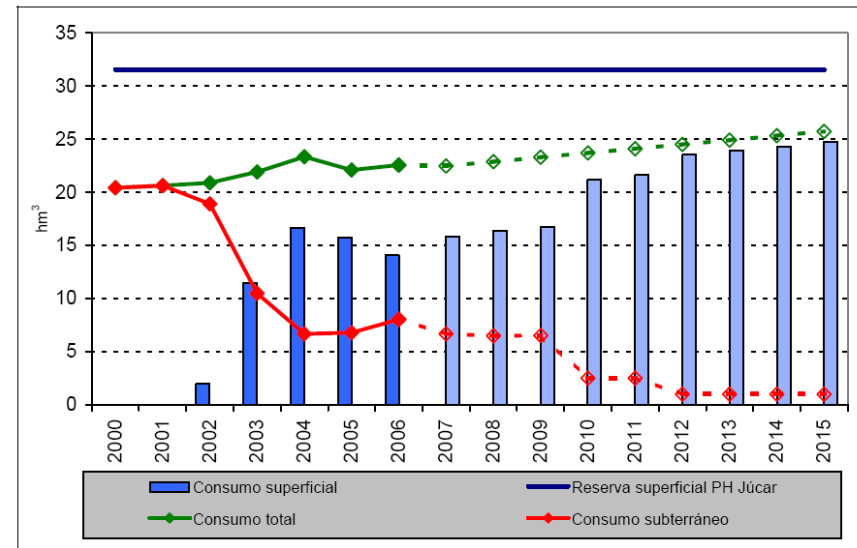
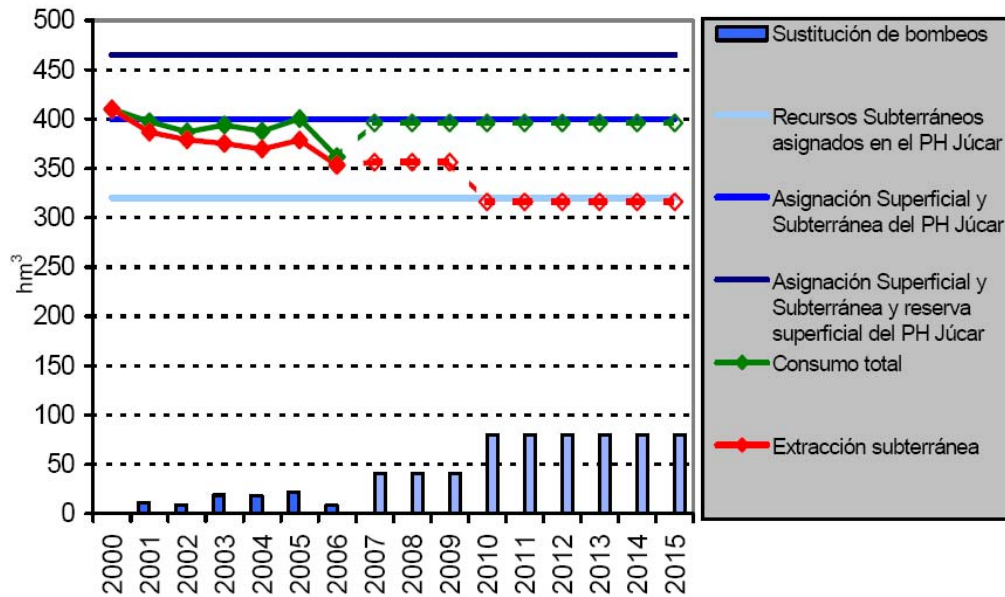
Characterisation, regularisation and control of exploitations

2 m<sup>3</sup>/s minimum flow Alarcón reservoir



# MEASURES

## Pumping substitutions



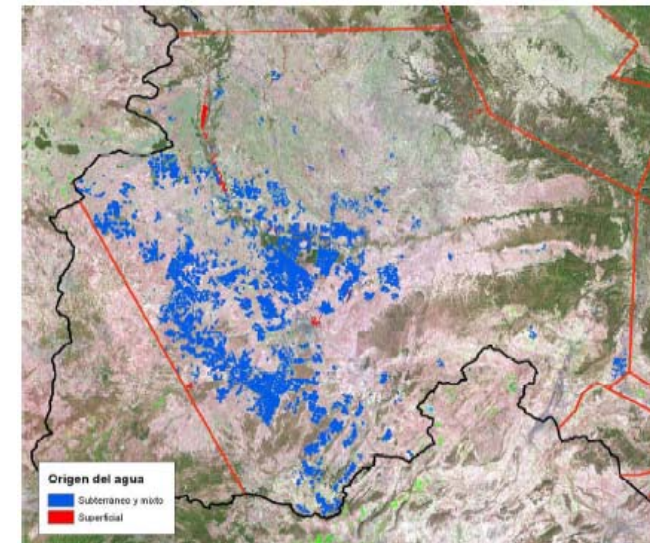
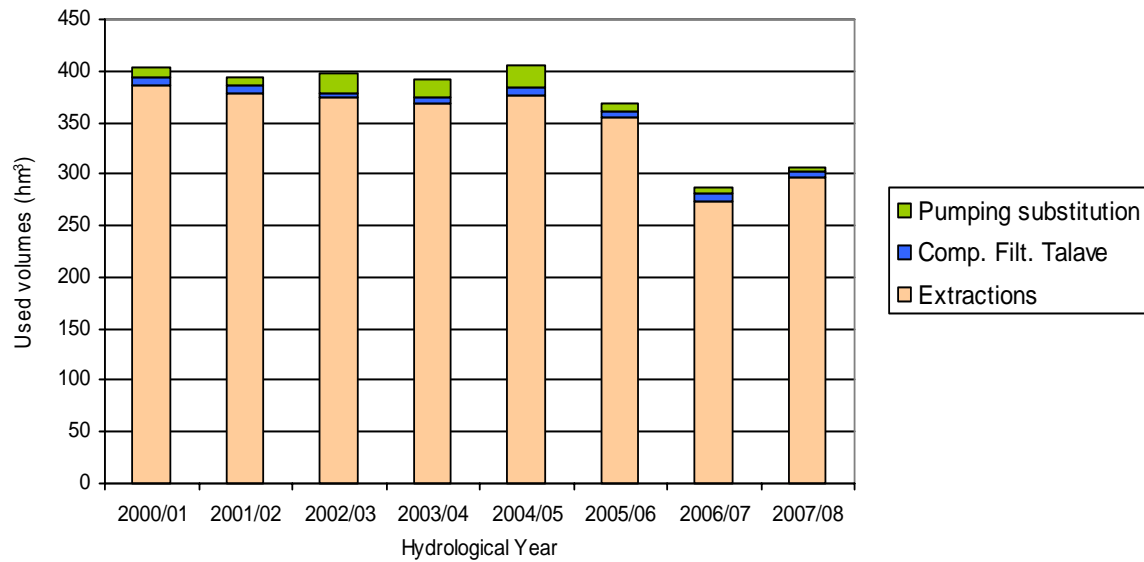
Works for the sustainable exploitation of the water body (in thousand €)					
<b>Modernisation and consolidation of Irrigation in CR Balazote La Herrera. Phase I. Shock Plan.</b>	In course	SEIASA of Meseta Sur	17.631	Modernisation of 5.349 ha of irrigation	
<b>Supply of ETAP in Llanos, phase I</b>	In course	Aguas del Júcar, SA	49.204	Materialisation of the reserve of 1.3 of the Hydrological Basin Plan in force	
<b>Supply of ETAP in Llanos, phase II</b>	In course	Confederación Hidrográfica del Júcar	8.600		
<b>Supply of ETAP in Picazo, phases I y II</b>	Projected	Confederación Hidrográfica del Júcar - Aguas de Castilla la Mancha	70.000		
<b>Infrastructures for the substitution of Pumpings in Mancha Oriental, phase I</b>	Being exploited	Consejería de Agricultura de la JCLL	7.575	Materialisation of the Allocation of 80 hm <sup>3</sup> /year of Hydrological Basin Plan In force	
<b>Infrastructures for the substitution of Pumpings in Mancha Oriental, phase II</b>	Projected	Confederación Hidrográfica del Júcar	103.640		



# MEASURES

## Agricultural extractions stabilisation

Agricultural consumption by origin in Mancha Oriental



Year	Mixed and groundwater (hm <sup>3</sup> /year)	Compensation ATS (hm <sup>3</sup> /year)	Pumping substitution (hm <sup>3</sup> /year)	Groundwater extraction (hm <sup>3</sup> /year)
2004/05	404.8	6.4	21.5	376.9
2005/06	369.3	6.4	8.4	354.5
2006/07	286.6	6.4	6.3	273.9
2007/08	307.0	6.4	4.0	296.6



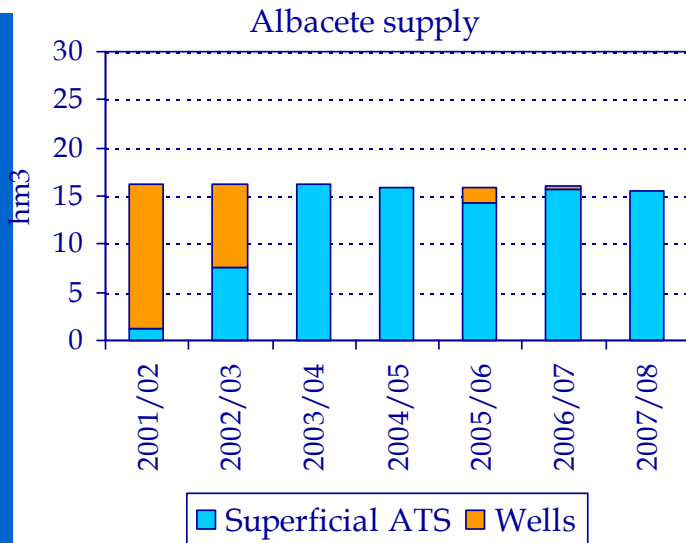


# MEASURES

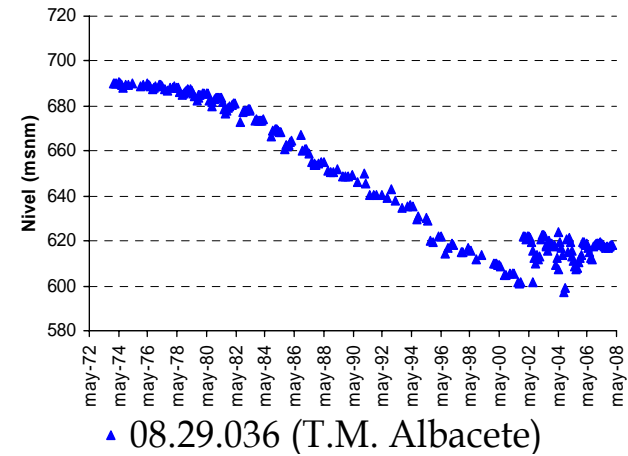


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DEL JÚCAR

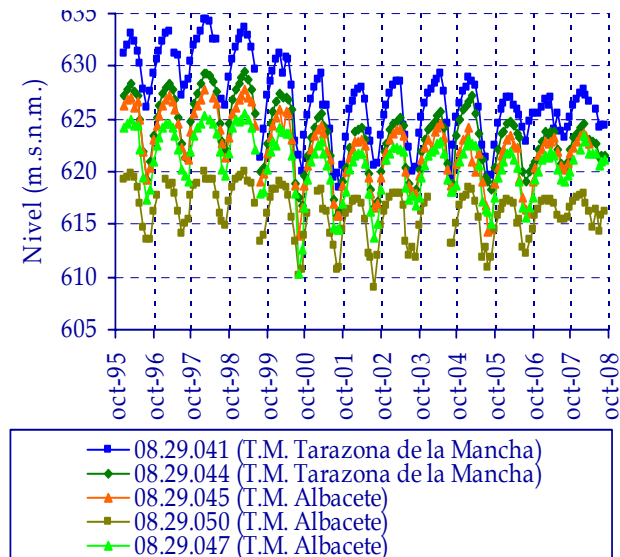
## Urban extraction reduction



## Piezometric stability



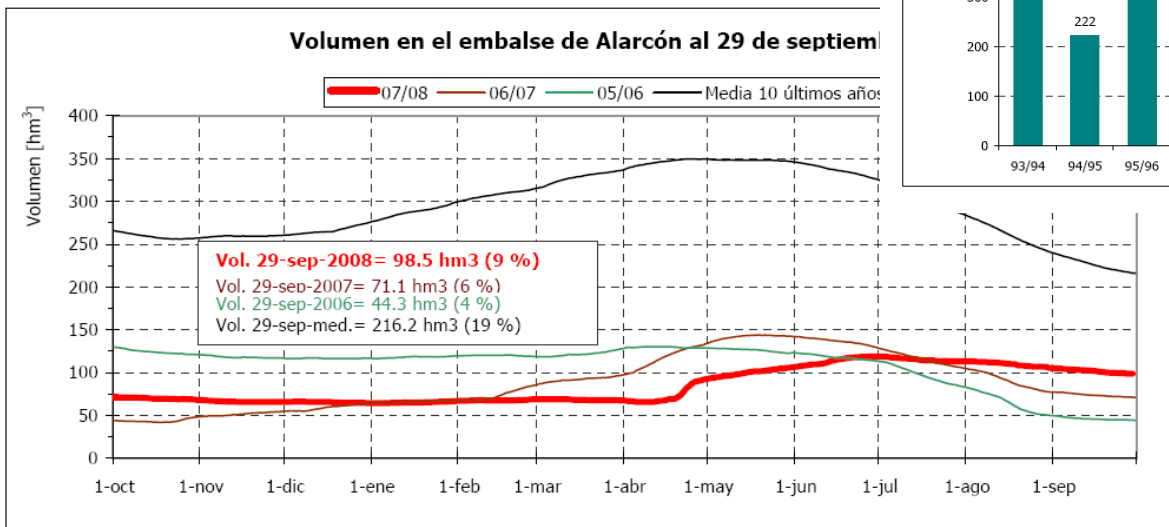
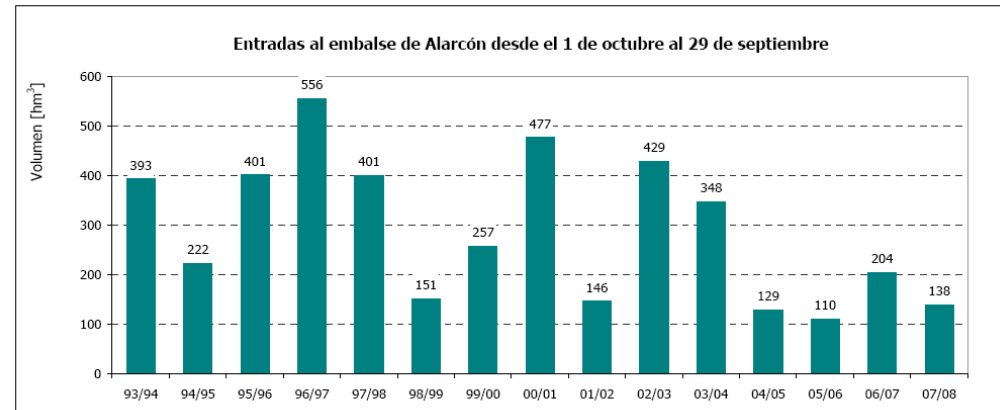
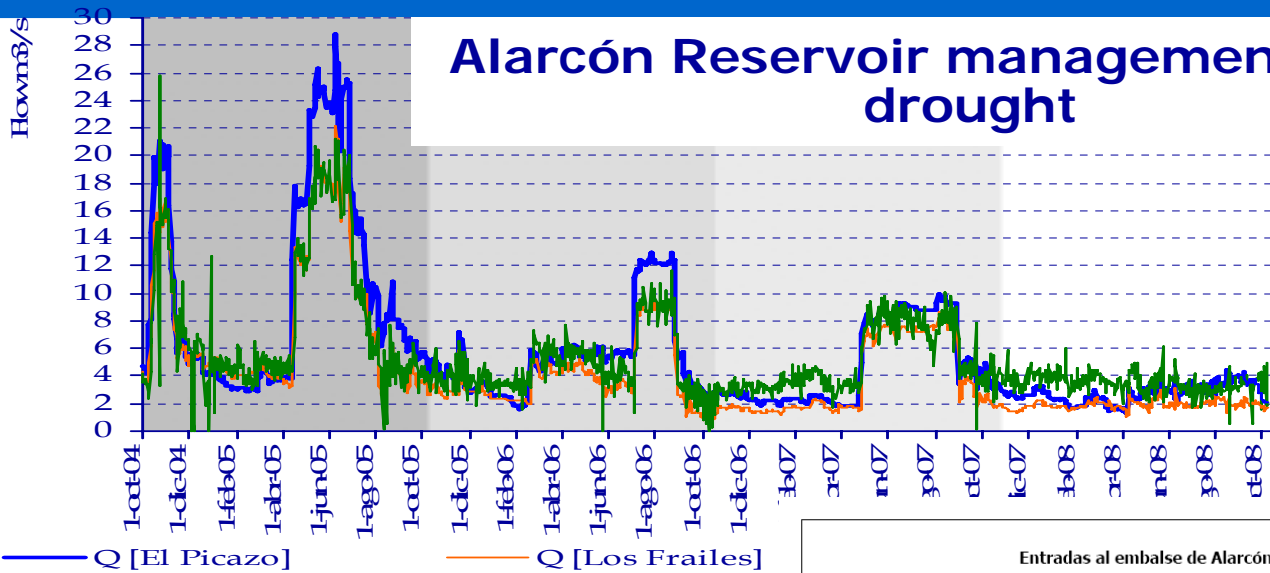
## Higher stability river-aquifer





# MEASURES

## Alarcón Reservoir management during drought





## MANAGEMENT WITH USERS



- ◆ User's communities are Public Rights Corporations, ascribed to the basin river authority that participate in the nature of Public Administration: Administrative authority
- ◆ They have legal personality and own patrimony.
- ◆ Governed by their Statutes and By-Laws and act according to procedures established by the Water Law and its development regulations, as Legal Regime for Public Administrations and Common Administrative Procedure.
- ◆ Basic role: to administrate and guard the good functioning of the exploitation.
- ◆ Internal organisation
  - General Board or Assembly
  - Governing board
  - Jury/s
- ◆ Economical regime
  - Water consumption fee
  - General expenses contribution fee



## MANAGEMENT WITH USERS

### Advantages:

- Resource management by direct beneficiary.
- Work relief of the basin organisation: non-viability for personalised treatment for all the incidents.
- Proximity of Administration to the citizen and participation in the decision-making process (formal and informal).
- Co-responsibility.
- Sustained exploitation of water resources.
  - Optimal current performance of exploitations
  - Future generations' needs satisfaction: rationalisation culture, economy and protection of water.

### Inconvenients:

- Pressure to hierarchic authority: legal, economic and social.
- Diverse degree of management efficiency depending on it being:
  - Exploitation: good water administration.
  - Administrative and economic regime: lack of specialisation and professionalism.
- Adoption of agreements – majority regime.



## MANAGEMENT WITH USERS



- JCRMO: Public Rights corporation ascribed to the Júcar River Basin Authority (JRBA), created in 1994 by initiative of users
- Objective: sustainable management of water exploitations
- Acknowledged as Users' Community of the aquifer Mancha Oriental on 19/2/1999 by resolution of the JRBA
- > 800 members and > 90.000 ha
- Very active implication of users in planning and management

- Exploitation characterisation
- Definition of the pumping substitution actions
- Public Offer for Rights Acquisition (OPAD)
- Withdrawal Commission
- Permanent Drought Commission of the Governing Board
- Governing Board
- Water Council
- Public Offer for Water Rights Acquisition (POWRA)
- Special Drought Plan
- Hydrological Basin Plan in Júcar



JUNTA CENTRAL DE REGANTES  
DE LA MANCHA ORIENTAL



# POWRA



MINISTERIO  
DE MEDIO AMBIENTE,  
Y MEDIO RURAL Y MARINO

CONFEDERACIÓN  
HIDROGRÁFICA  
DEL JÚCAR

## PUBLIC OFFER OF WATER RIGHTS ACQUISITION (POWRA)

### Objective:

Flow maintenance downstream of the Alarcón Reservoir



Júcar river in Summer 1995



Júcar river during Summers  
2007 and 2008



# POWRA



## Reduction of the use 2007-08

### AGREEMENT FOR THE PUBLIC OFFER OF WATER RIGHTS ACQUISITION (OPAD) IN THE MIDDLE SECTION OF THE JUCAR BASIN FOR ENVIRONMENTAL REASONS

Objective: To reduce water extractions in the middle section of the Júcar river, both in superficial takings, and in subterranean takings with a higher affection to the river.

- 2007 Rights acquisition through the reduction of irrigated surfaces.
- 2008 Rights acquisition through the use of less water-consuming (spring crops) crops.



## Legal Framework

- ◆ Water Law. Art. 71. Rights Exchange Centres
  - ◆ In certain situations, as drought, authorises to, by agreement of the Ministers' Council, constitute Water Rights Exchange Centres.
  - ◆ Basin organisations will be authorised to develop public offers of water rights acquisition to later give them to **other users**, through the price payment.
- ◆ Royal Decree Law 9/2006, of 15 September, by which urgent measures are adopted to palliate the effects produced by drought in towns and agricultural irrigation exploitations in certain Hydrological basins.
  - ◆ Third additional disposition: Authorises as destination of the acquired resources the consecution of **good status of the groundwater bodies**.....





## Main Characteristics

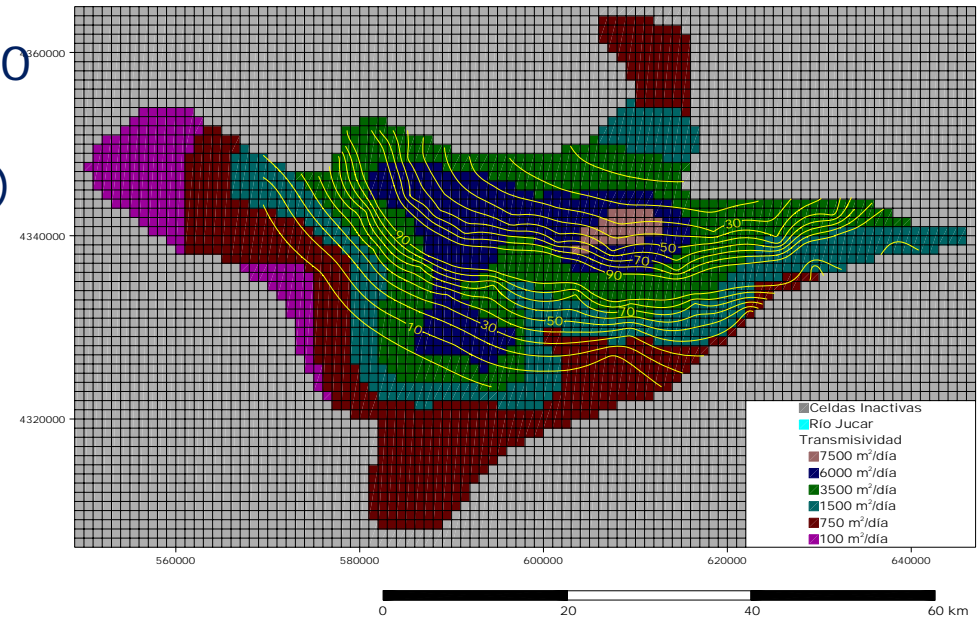
Selection criteria:

1. Affection to the river (0-20 points)
2. Offered price (0-20 points)

Geographical scope: 28.000 has

Rights volume: 148 hm<sup>3</sup>

Temporary character: seasons 2007-08



Maximum amount	Minimum amount	<b>2007</b>
0,1957 €/m <sup>3</sup>	0,13 (€/m <sup>3</sup> )	

**2008**

Maximum amount	Minimum amount
0.25 €/m <sup>3</sup>	0.20 (€/m <sup>3</sup> )



# POWRA

## OPAD 2007:

## Obtained results

	Total
Applications submitted:	119
Rights volume (hm <sup>3</sup> )	56,8
Given-up volume (no economic compensation) (hm <sup>3</sup> )	22,9
Offered volume (hm <sup>3</sup> )	27,3
Materialised budget (million€)	5,5
Reserved volume (hm <sup>3</sup> )	6,6

## OPAD (I,II,III) 2008:

	Total
Applications submitted :	234
Rights volume(hm <sup>3</sup> )	109,6
Given-up volume (no economic compensation) (hm <sup>3</sup> )	12,5
Offered volume (hm <sup>3</sup> )	50,6
Provisionally materialised budget (million€)	12,7
Reserved volume (hm <sup>3</sup> )	46,5



# POWRA

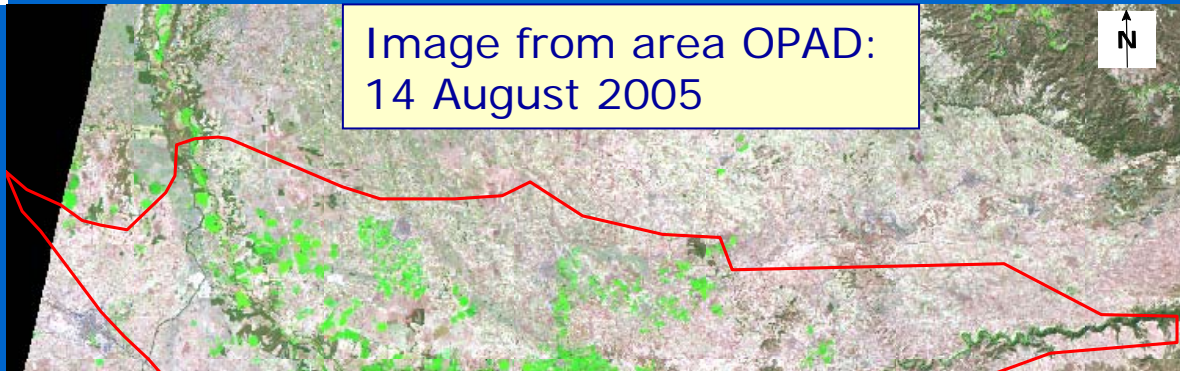


Image from area OPAD:  
14 August 2005

Effect of Public Offer for Rights Acquisition in 2008 for summer crops

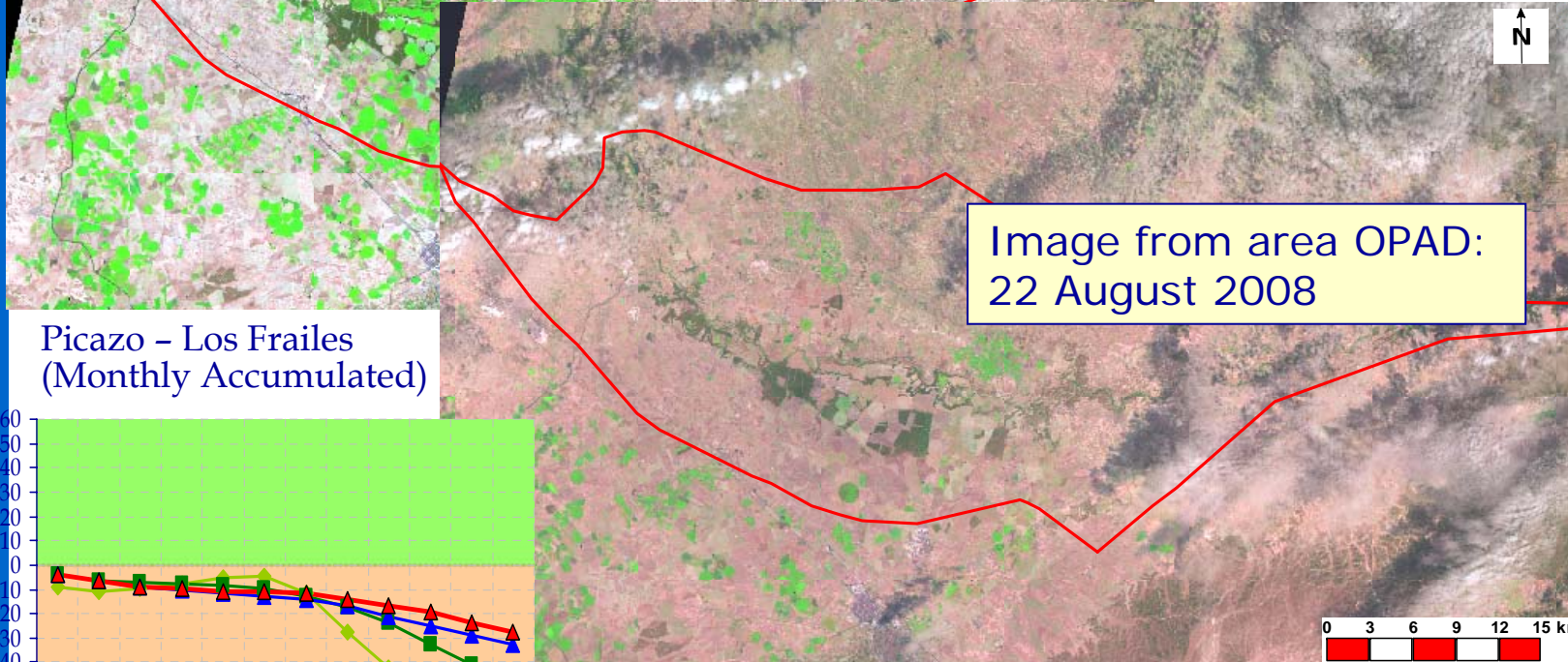
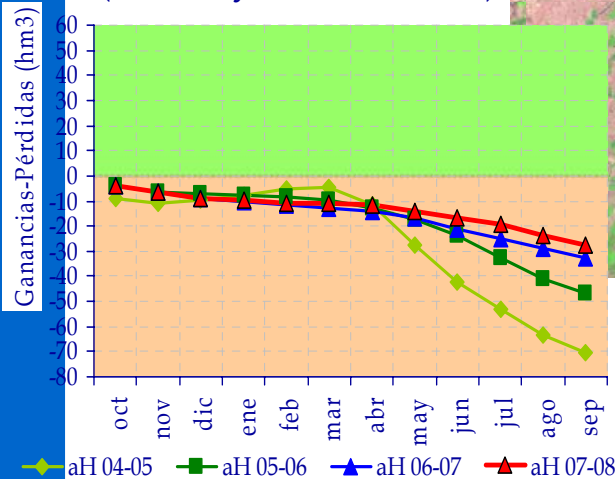


Image from area OPAD:  
22 August 2008

Picazo - Los Frailes  
(Monthly Accumulated)



Better relationship river-aquifer

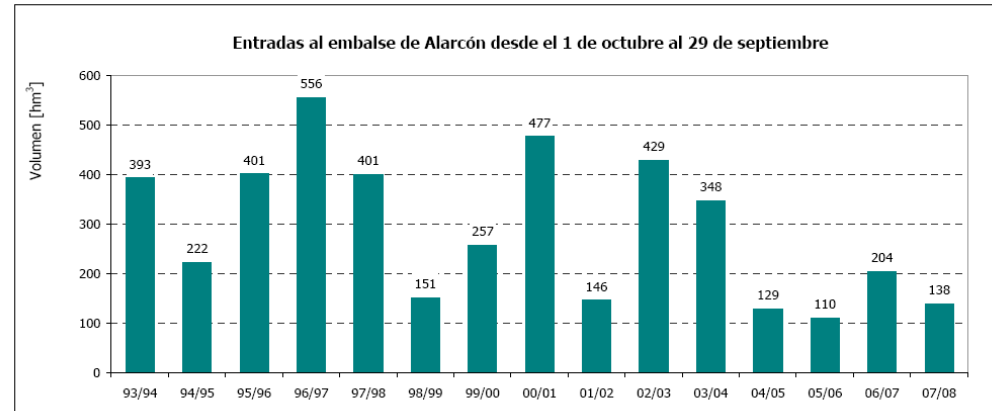
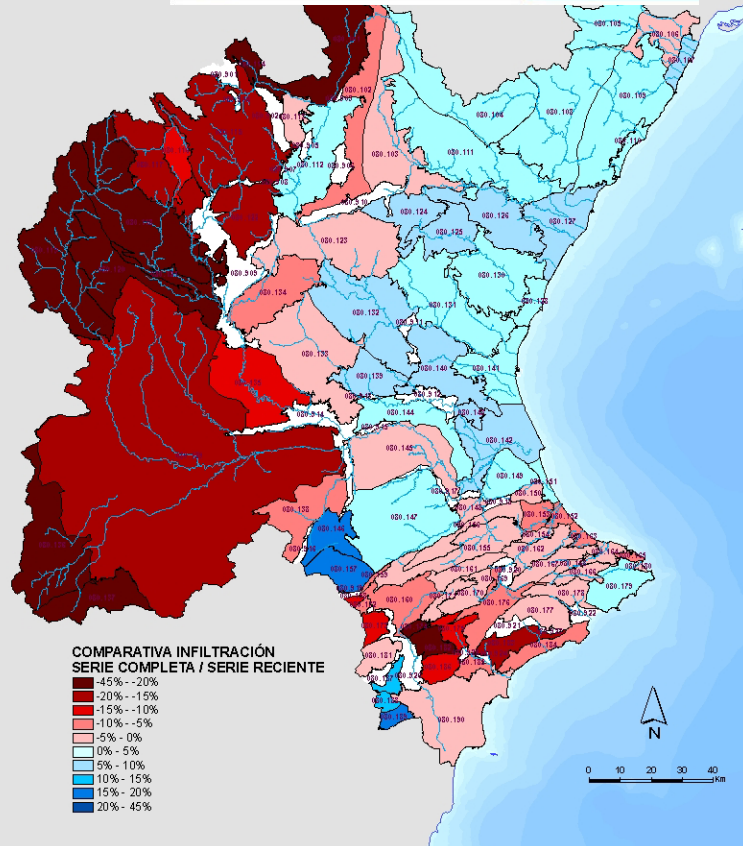
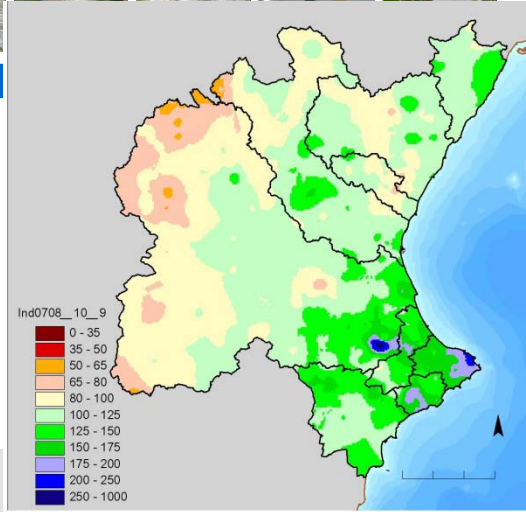


# New Basin Plan

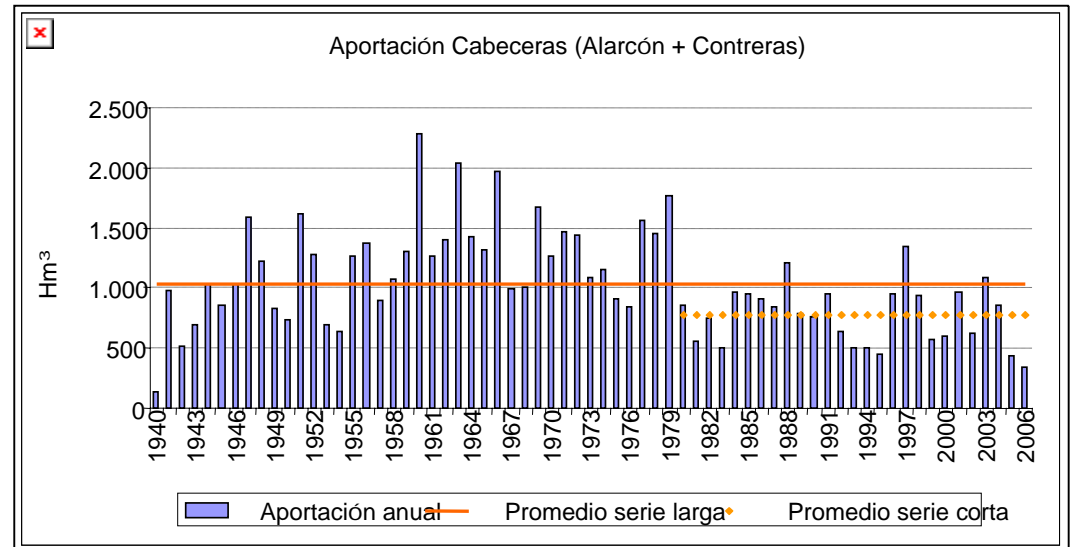


MINISTERIO DE MEDIO AMBIENTE, Y MEDIO RURAL Y MARINO

CONFEDERACIÓN HIDROGRÁFICA DEL JÚCAR



## Renewable water resources reduction





# Conclusions

- ◆ The current Hydrological Basin Plan has allowed for a better and sustainable water management.
- ◆ It is need a sharing management with grounwater users.
- ◆ Public Offer for Water Rights Acquisition is a good example of environmental water resources sharing management.
- ◆ The new Hydrological Basin Plan (WFD) sets new objectives and uncertainties in the consecution of the good quantity status :
  - Reduction renewable resources
  - Need to incorporate environmental requirements
  - No disproportioned costs
  - With Public Participation:
    - Users
    - Rest of social agents



**Thanks for your attention !**

