

INBO General Assembly

Martinica, 24 – 28 January 2004

THE JUCAR PILOT RIVER BASIN IN SPAIN

Teodoro Estrela

Jefe de la OPH de la CHJ



European Pilot River Basin Network

B, F, N (Scheldt)

D, F, Lux (Moselle-Sarre)

Denmark (Odense)

Finland (Oulujoki)

Norway(Suldalsvassdraget)

France (Marne)

Ireland (Shannon)

Greece (Pinios)

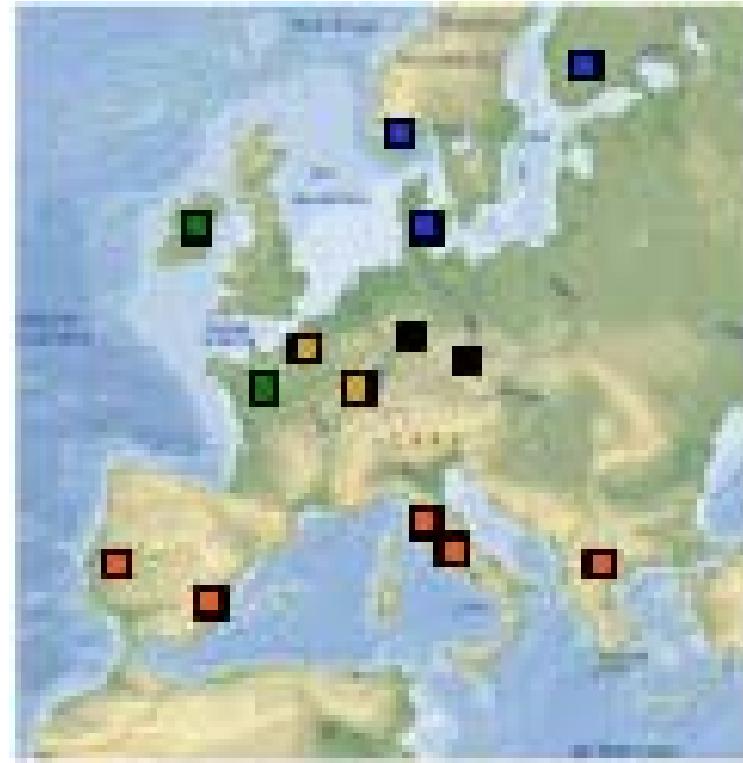
Portugal (Guadiana)

Spain (Júcar)

Italy (Cecina, Tevere)

Romania Hungary (Somos)

CZ, D, PL (Neisse)



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DE MEDIO AMBIENTE

CONFEDERACIÓN HIDROGRÁFICA DEL JÚCAR

Main figures of Júcar River Basin



Area (km^2)	43.000
Population (inhabitants)	4.360.000
Equivalent Population due to Tourism (inhabitants)	1.400.000
Irrigated land (ha)	370.000
Water Resources (hm^3/year)	3.400
Water Demand (hm^3/year)	2.960



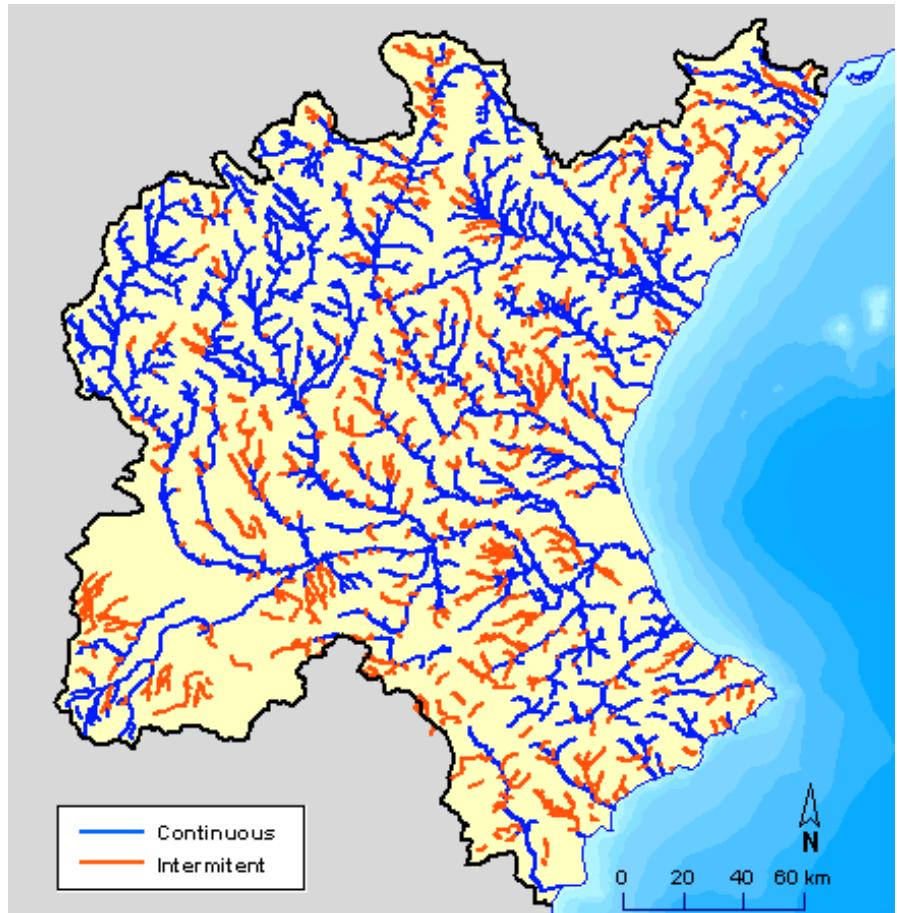
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Main activities for WFD implementation

- Characterization of surface and groundwater bodies
- Register of protected areas
- Analysis of pressures and impacts due to human activity
- Economic Analysis
- Public participation

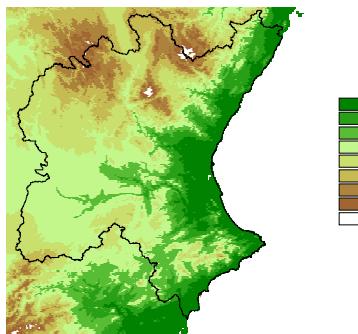
River typologies



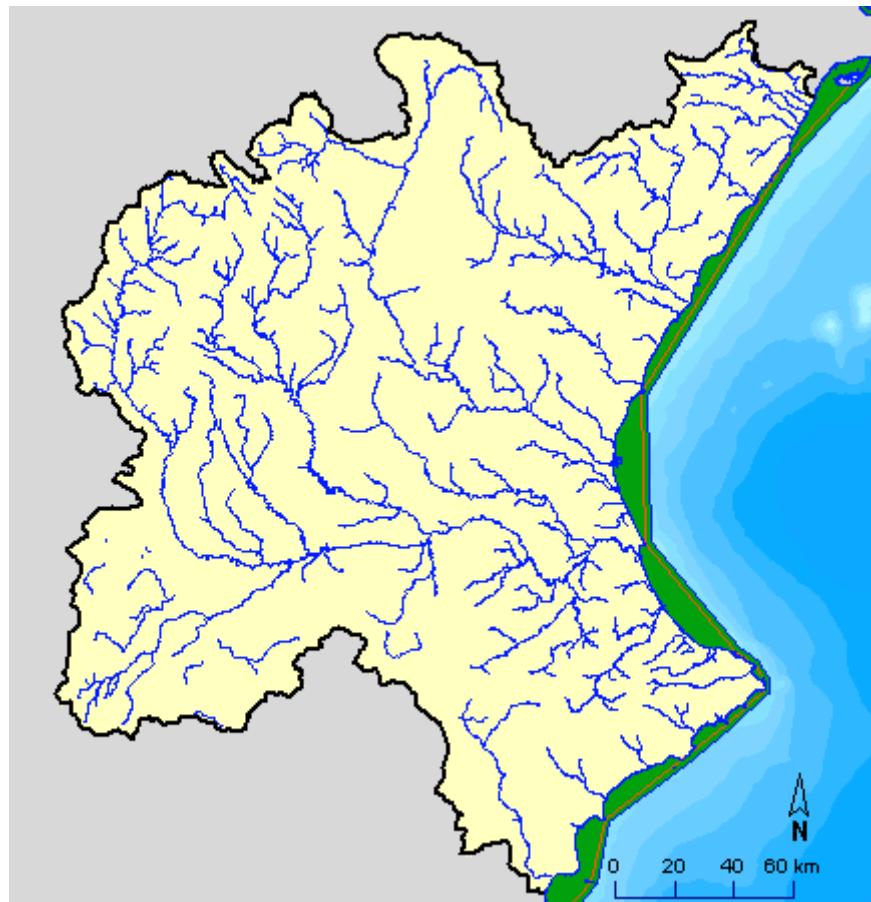
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Surface water bodies

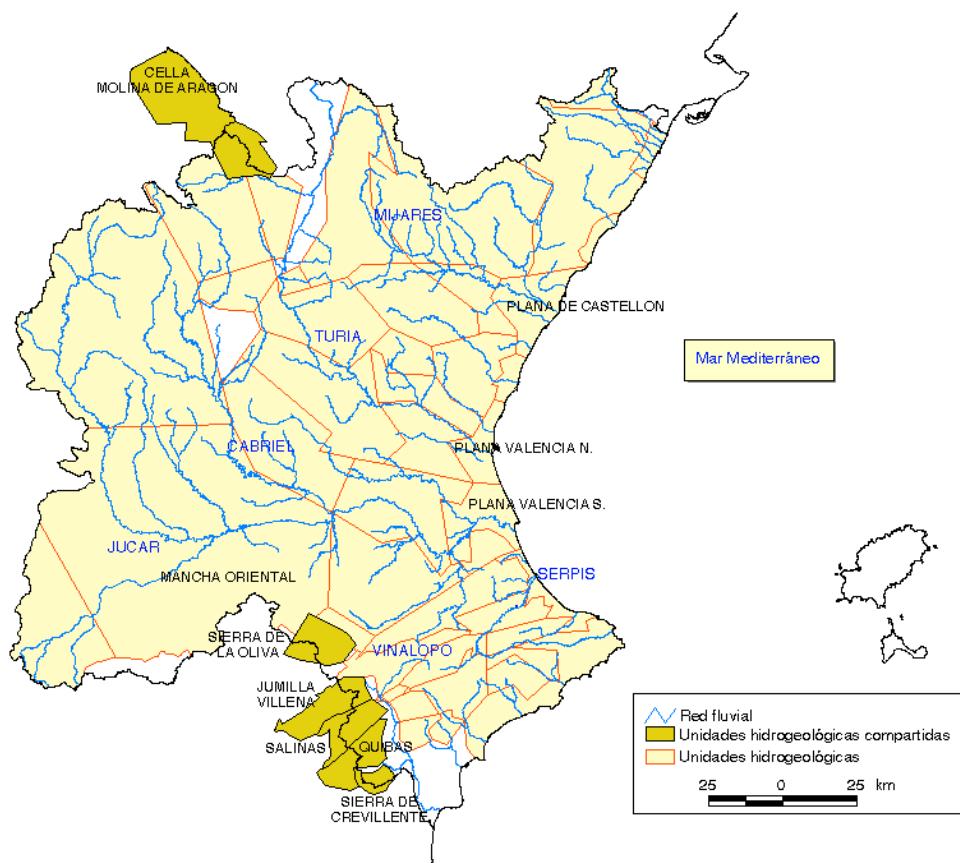


Digital terrain model
(100 m x 100 m)



Drainage network with basins > 100
l / s and drainage area > 10 km²

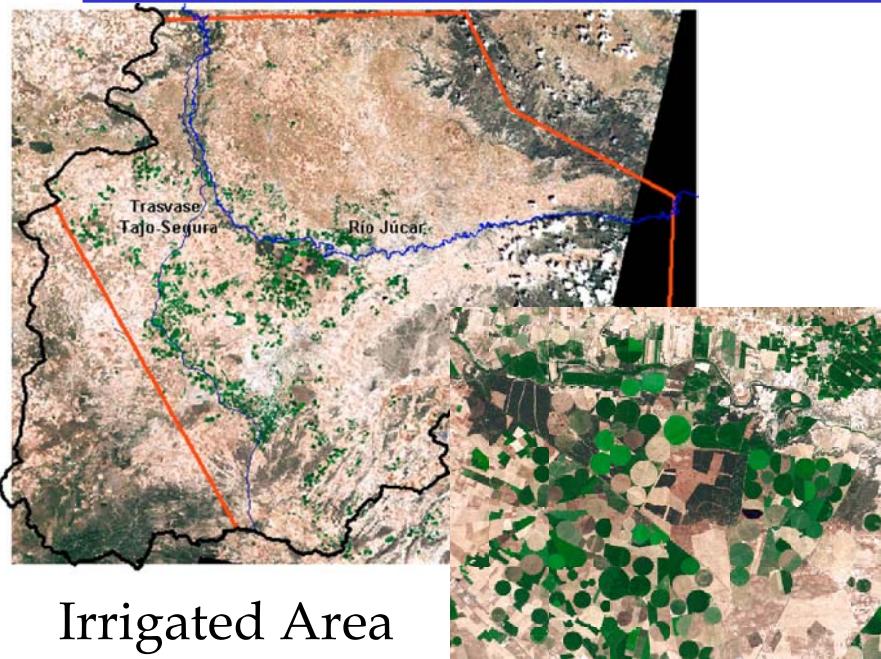
Initial characterization of aquifers



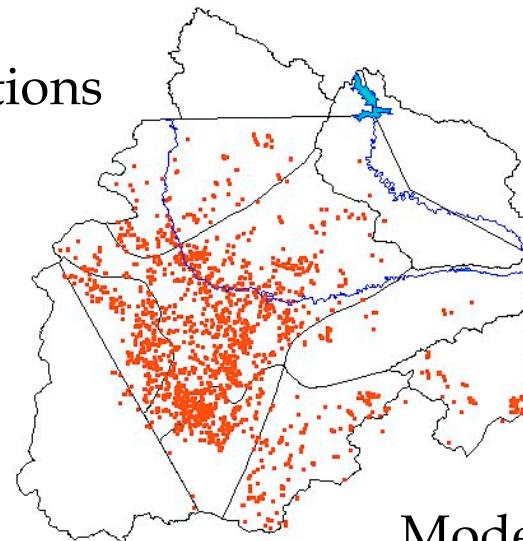
Groundwater body =
Hydrogeological unit

Activities in course

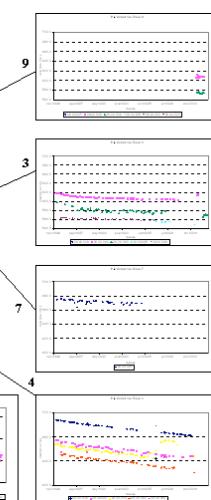
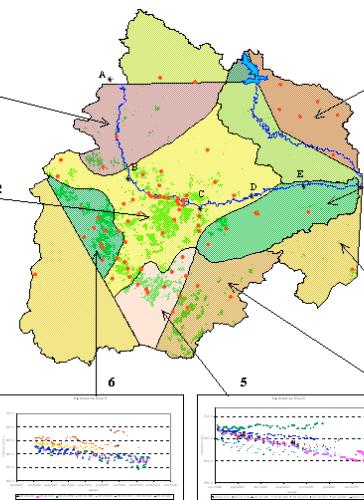
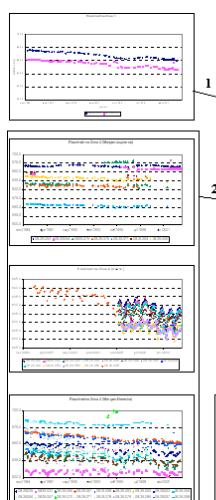
Additional characterisation: Case study Mancha Oriental Aquifer



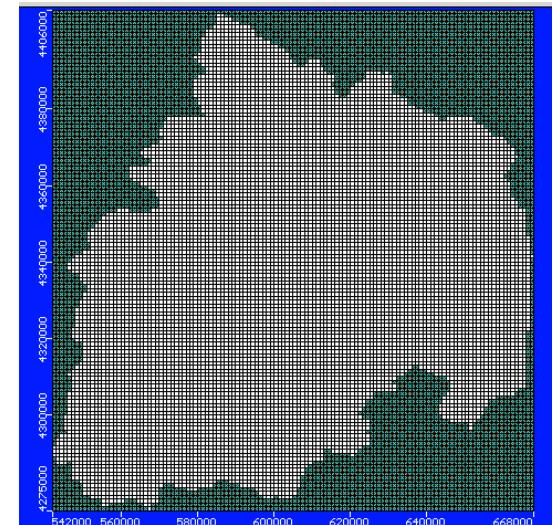
Abstractions



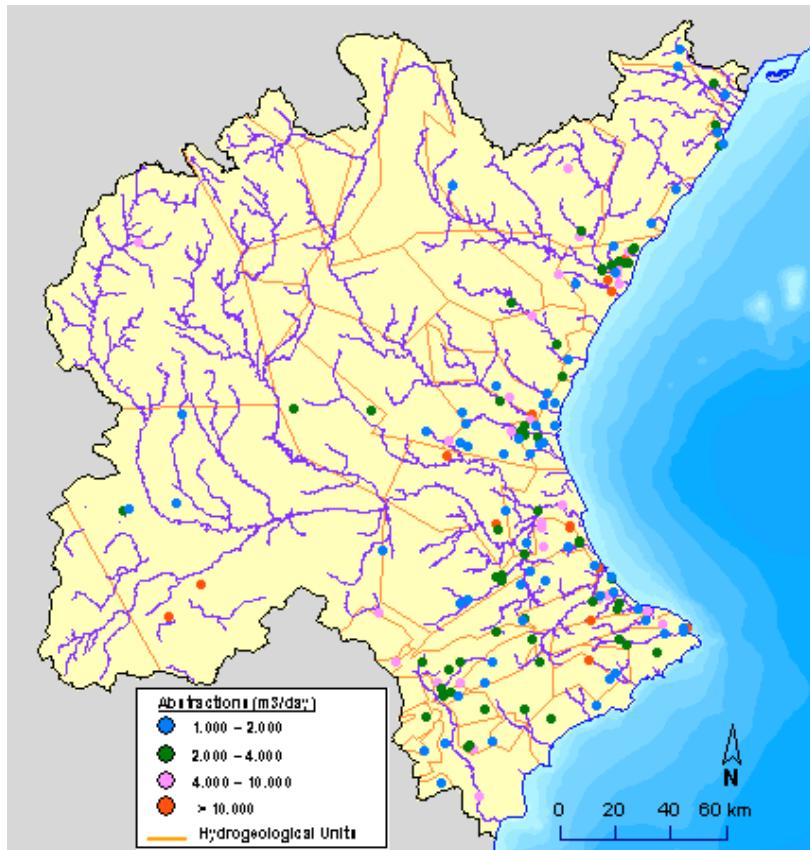
Modelling



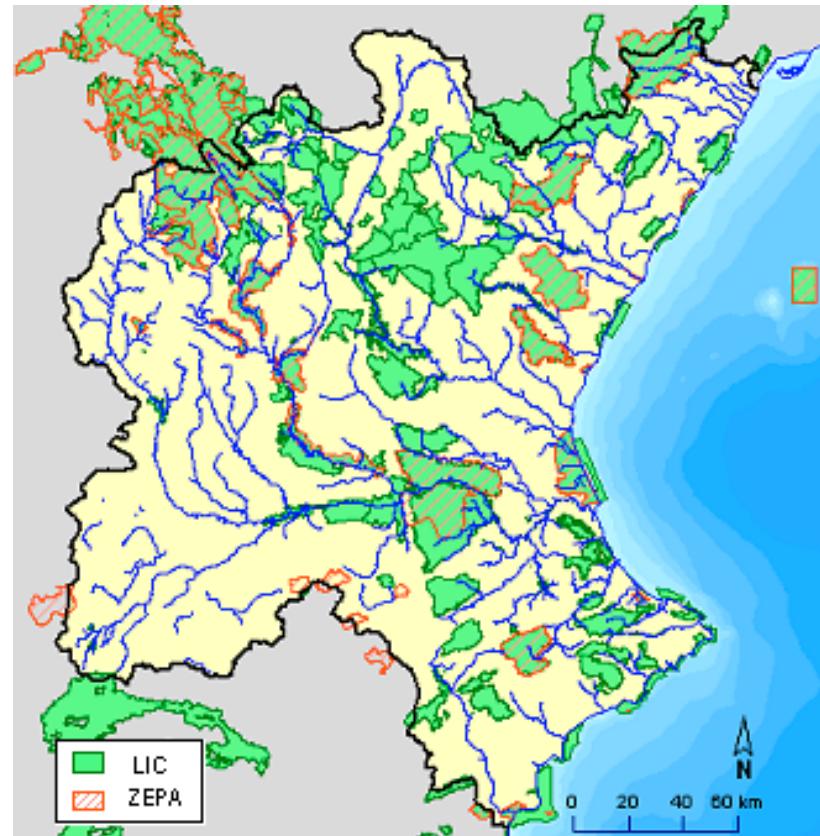
Water levels



Protected Areas

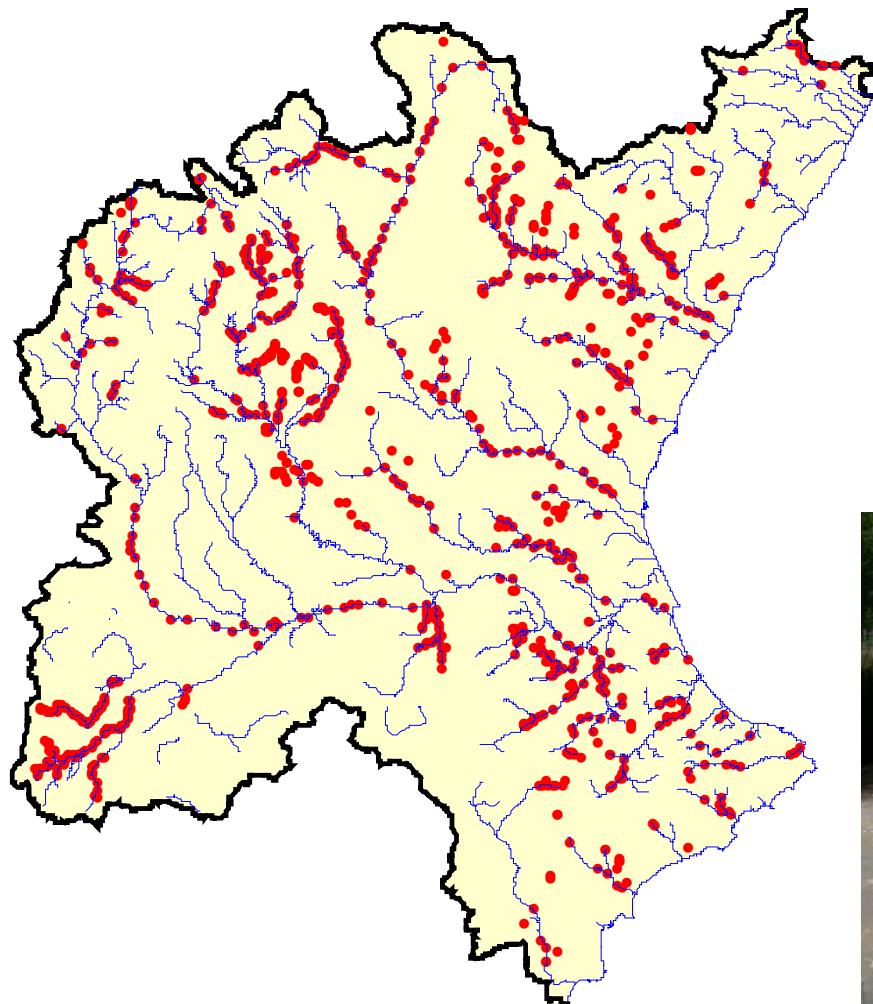


Water intended for human consumption



Natura 2000 network

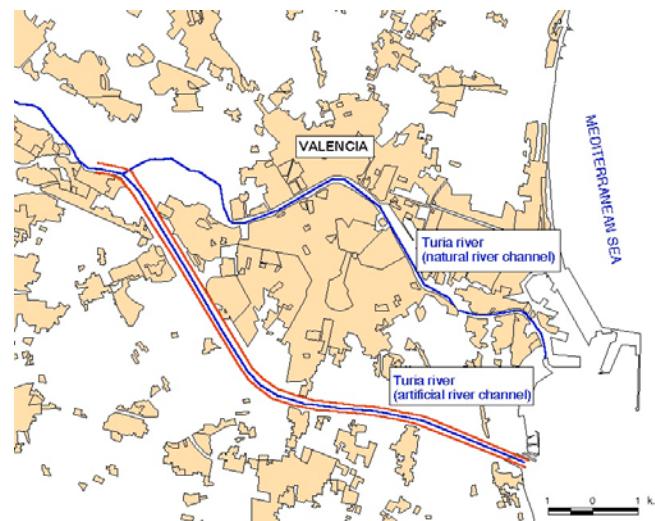
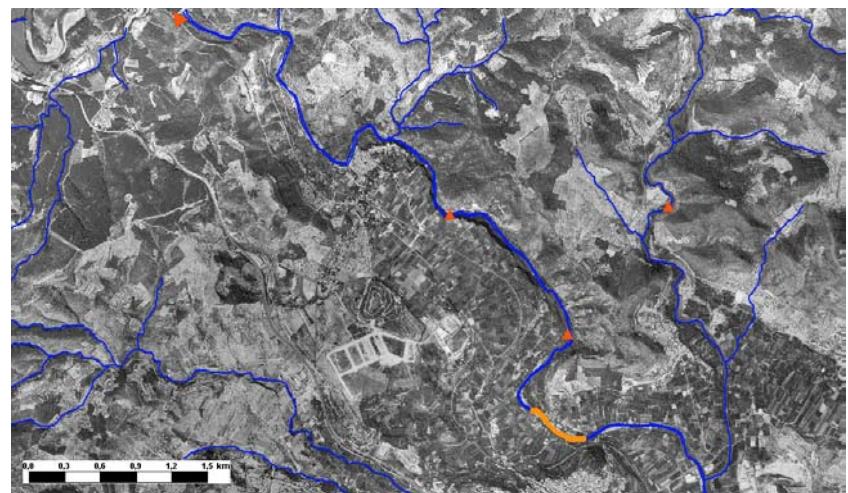
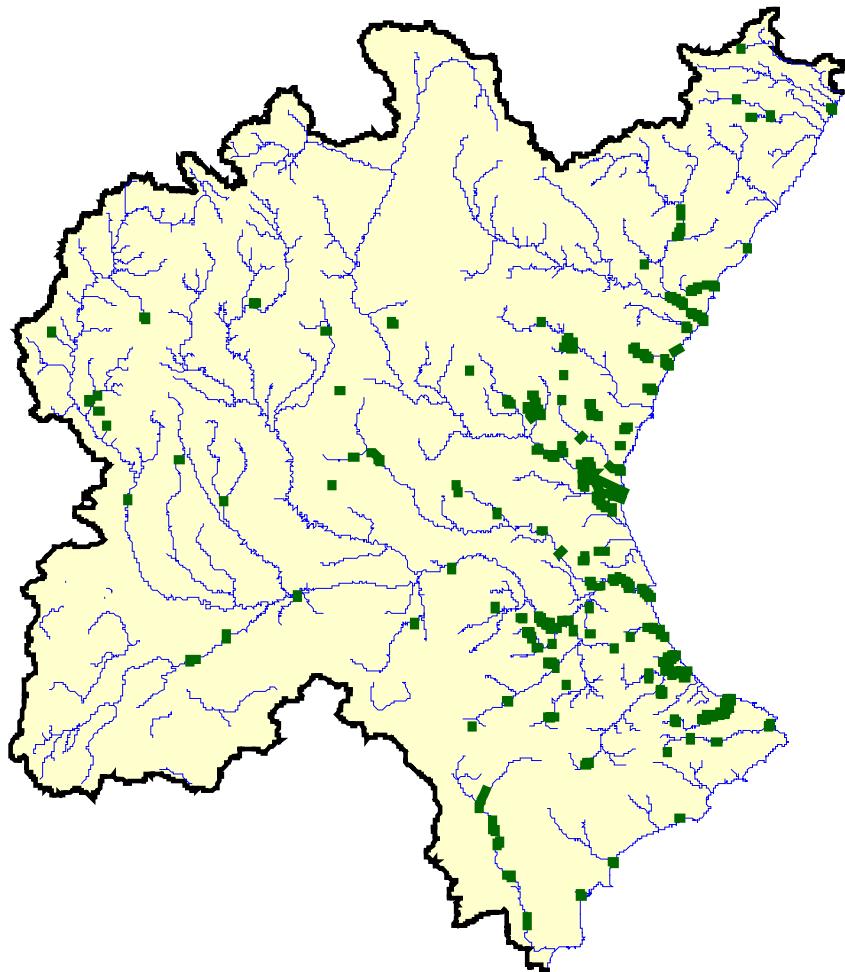
Morphological alterations (weirs)



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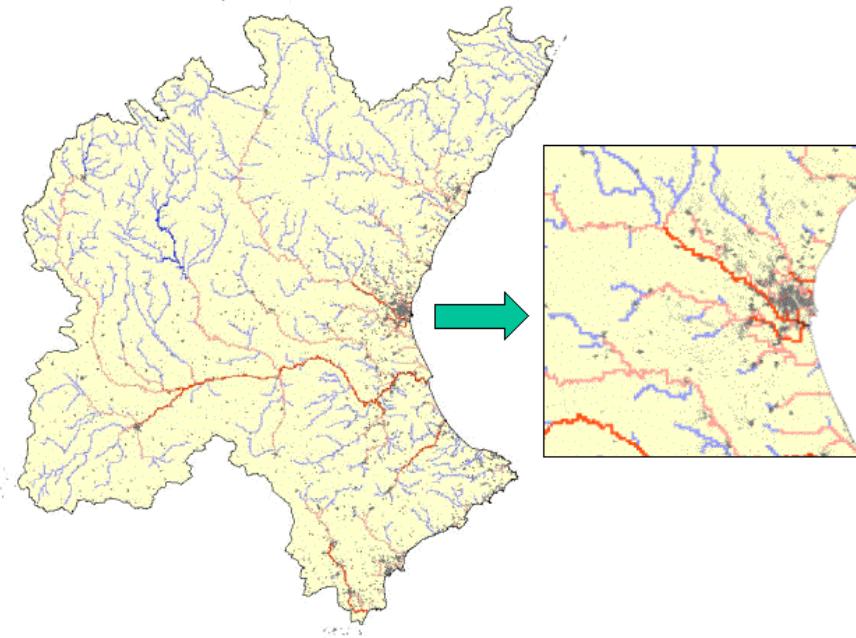
Morphological alterations (channelling)



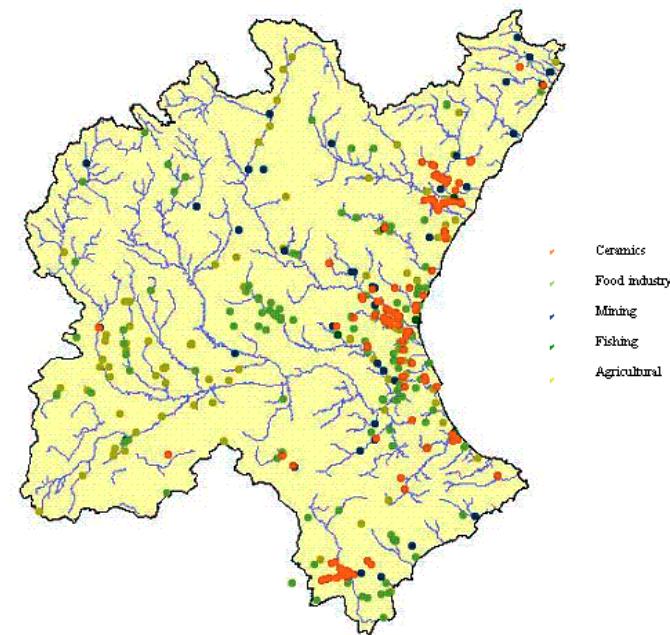
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Pressures: urban and industrial point discharges

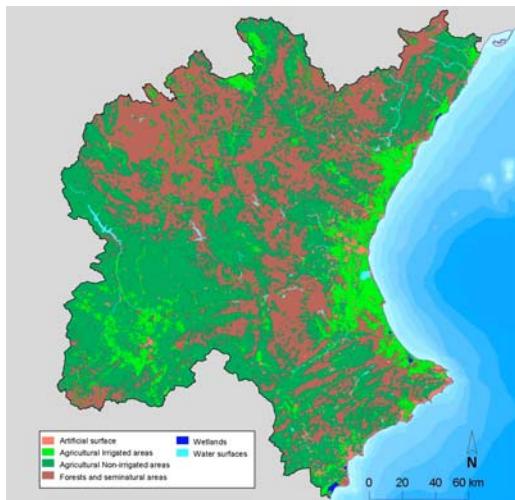


Urban discharges

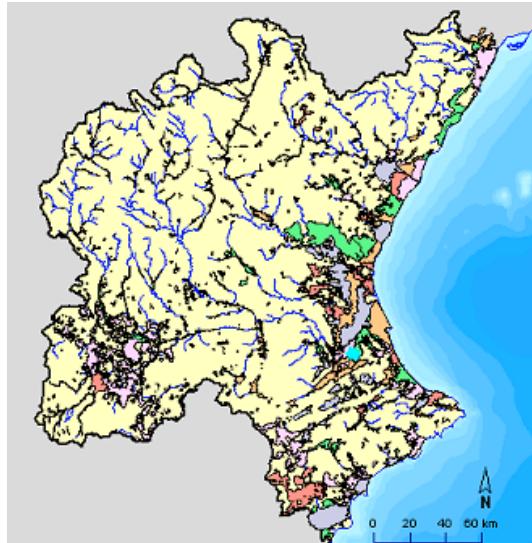


Industrial discharges

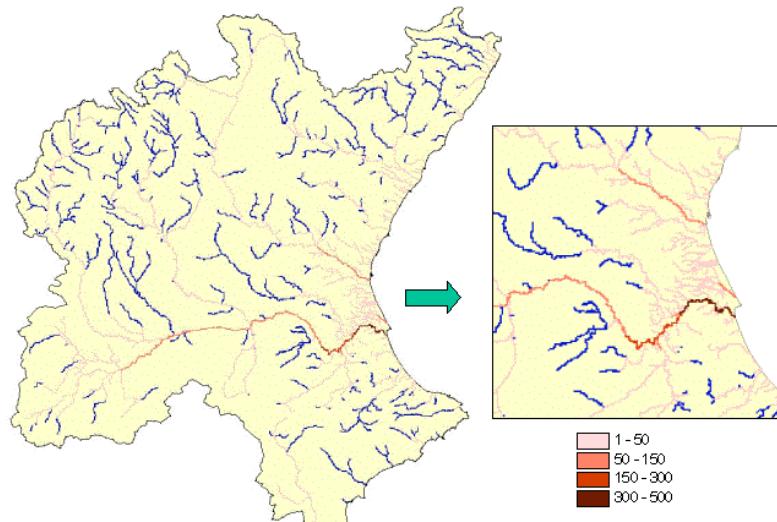
Pressures: diffuse pollution



CORINE land cover map



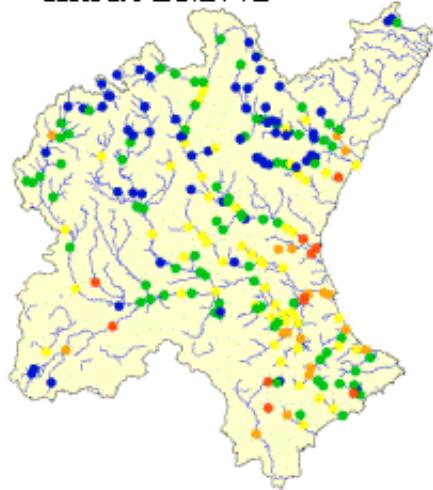
Agricultural Demand Units



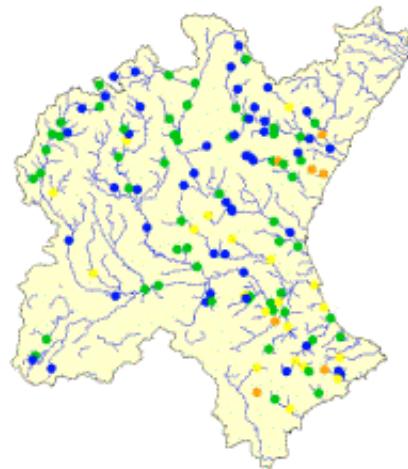
Flow returns from irrigation

Impact: biological monitoring network

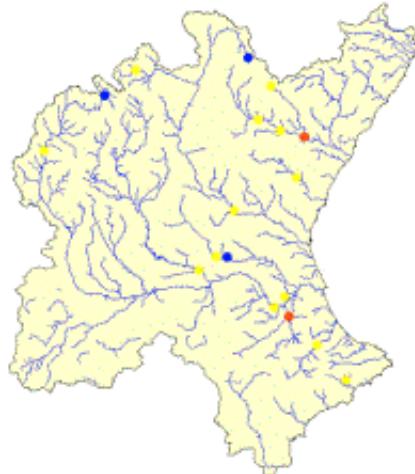
**Macroinvertebrate
index BMWP'**



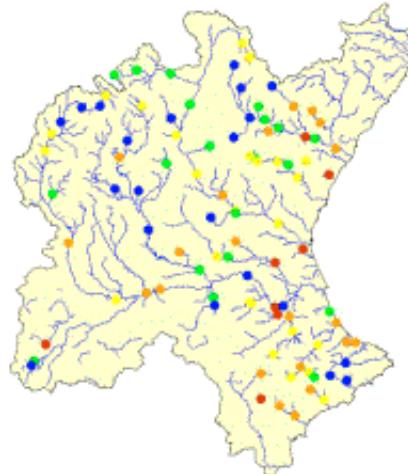
Diatome index



Ecotrophyc index



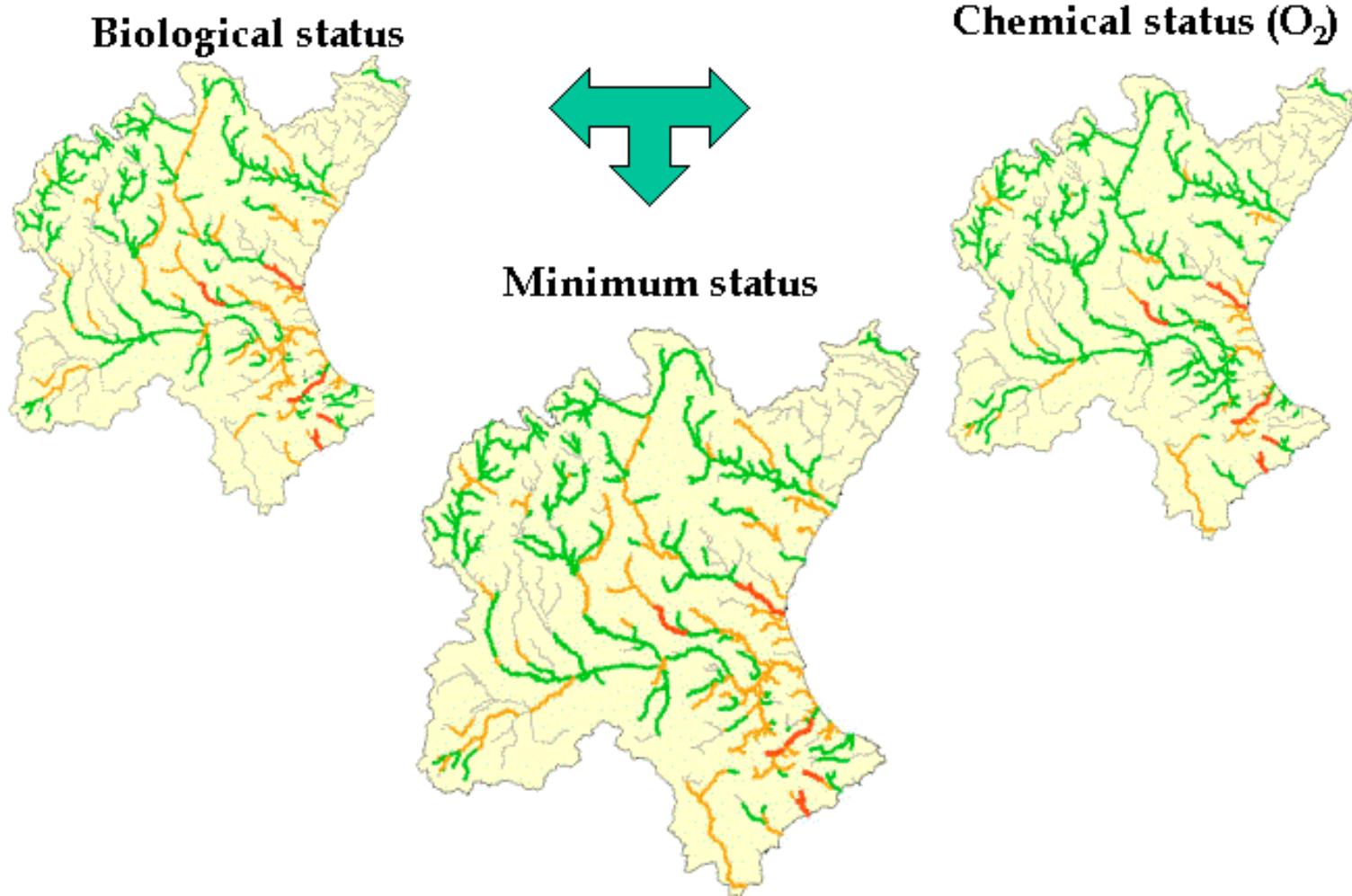
Macrophyte index



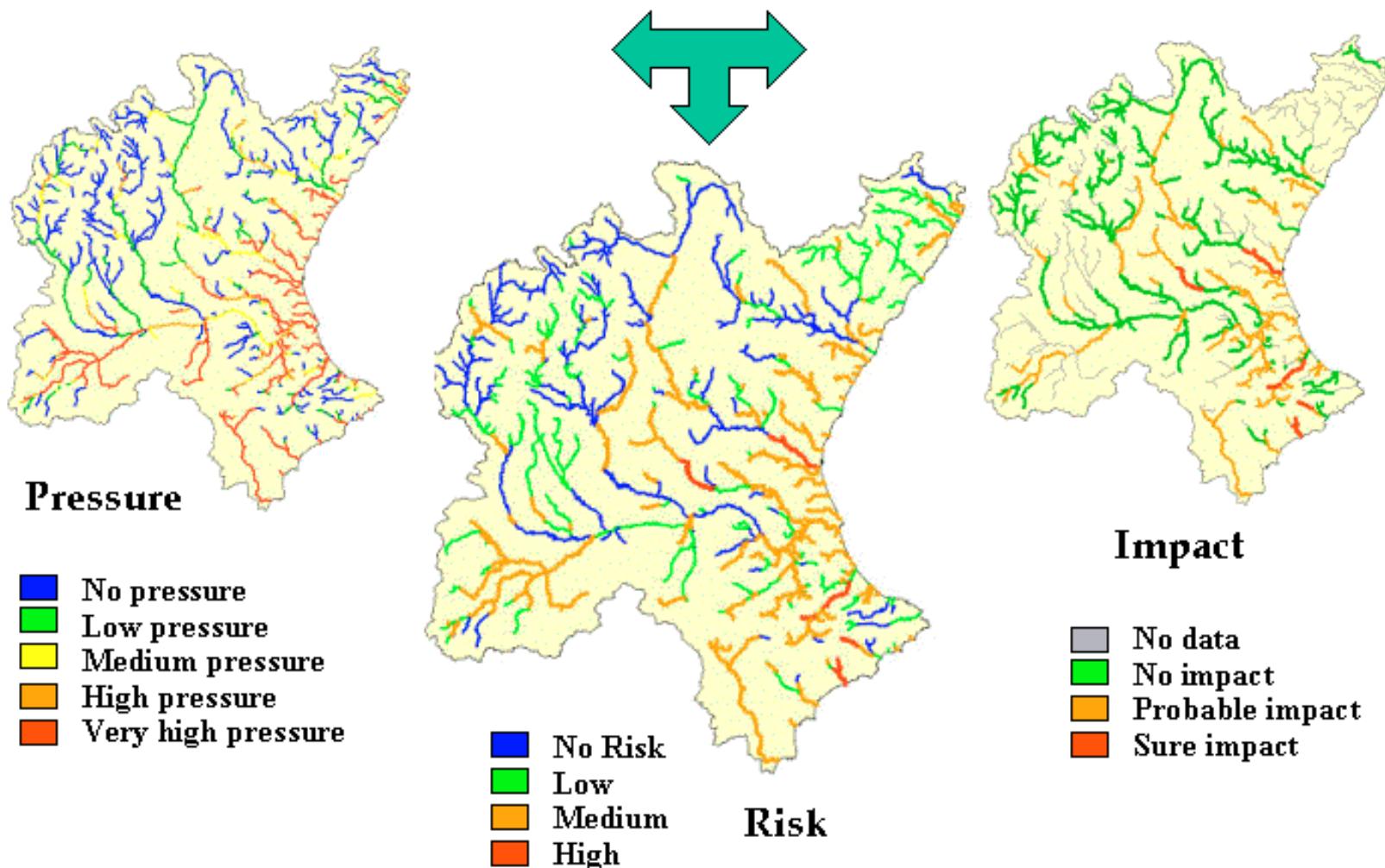
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Impact: surface water bodies status



Levels of risk for surface water bodies

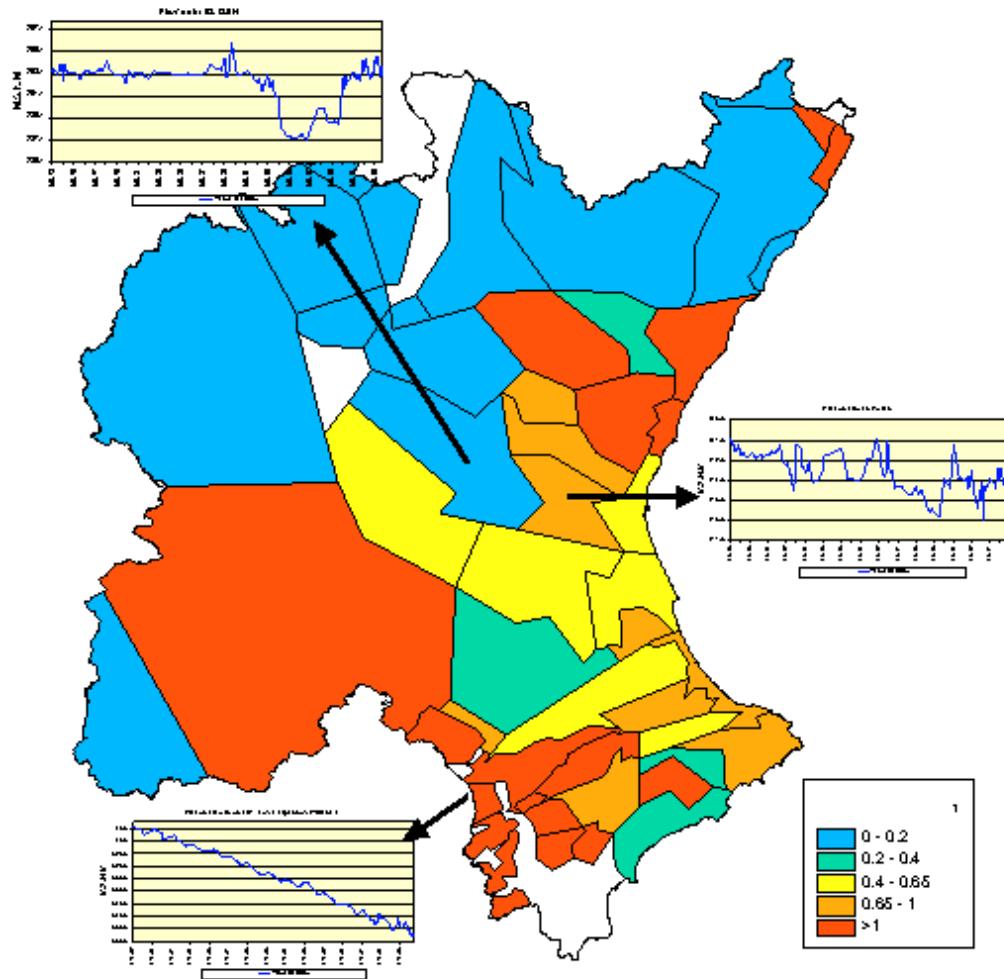


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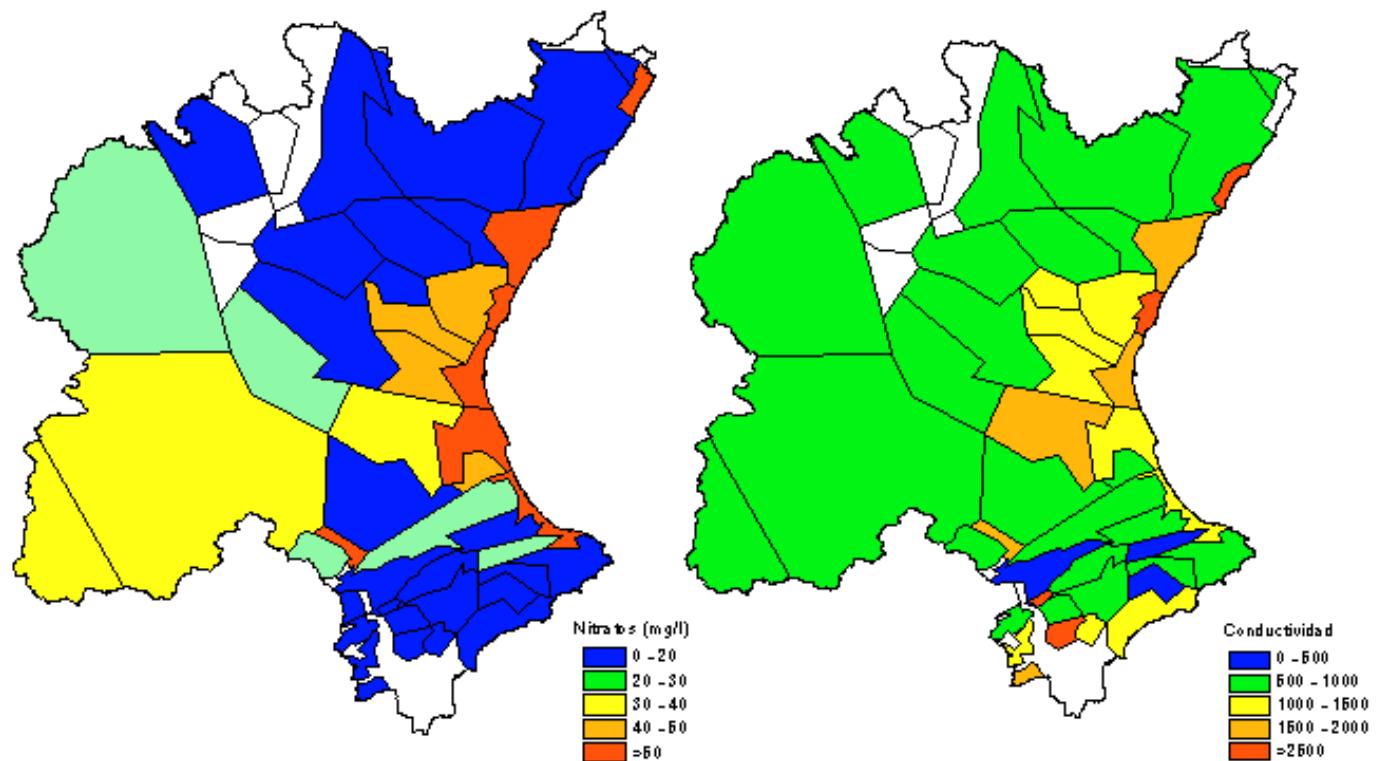
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Groundwater bodies: quantitative status

Exploitation index:
Abstractions /
Available water
resources



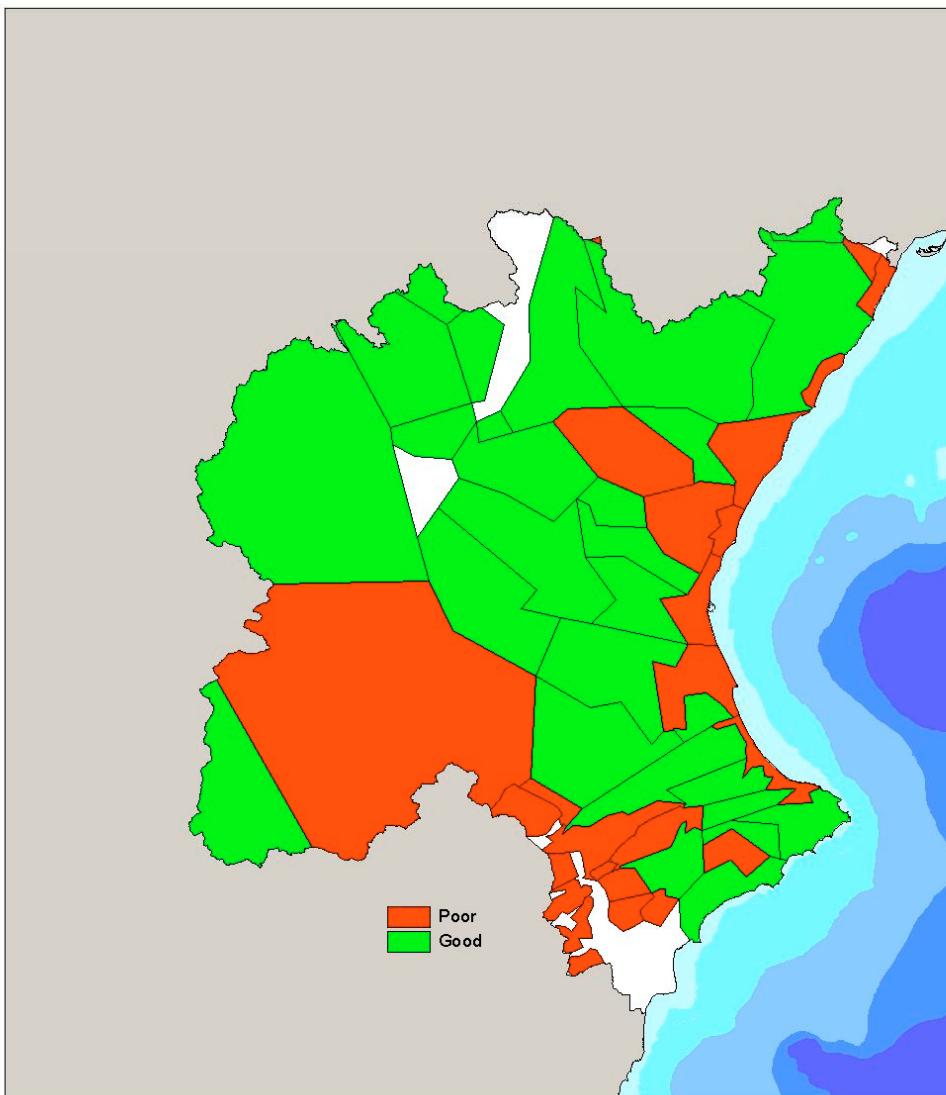
Groundwater bodies: qualitative status



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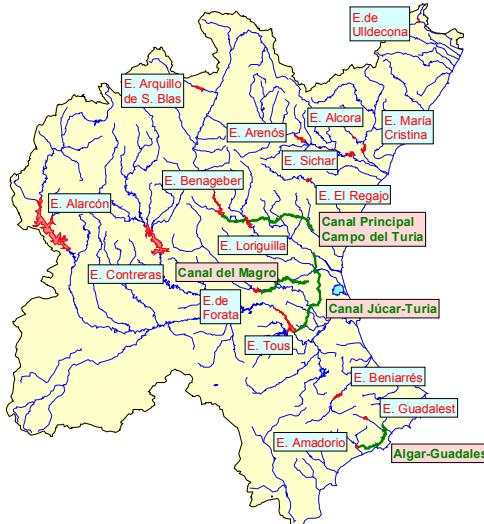
Preliminary status for groundwater bodies



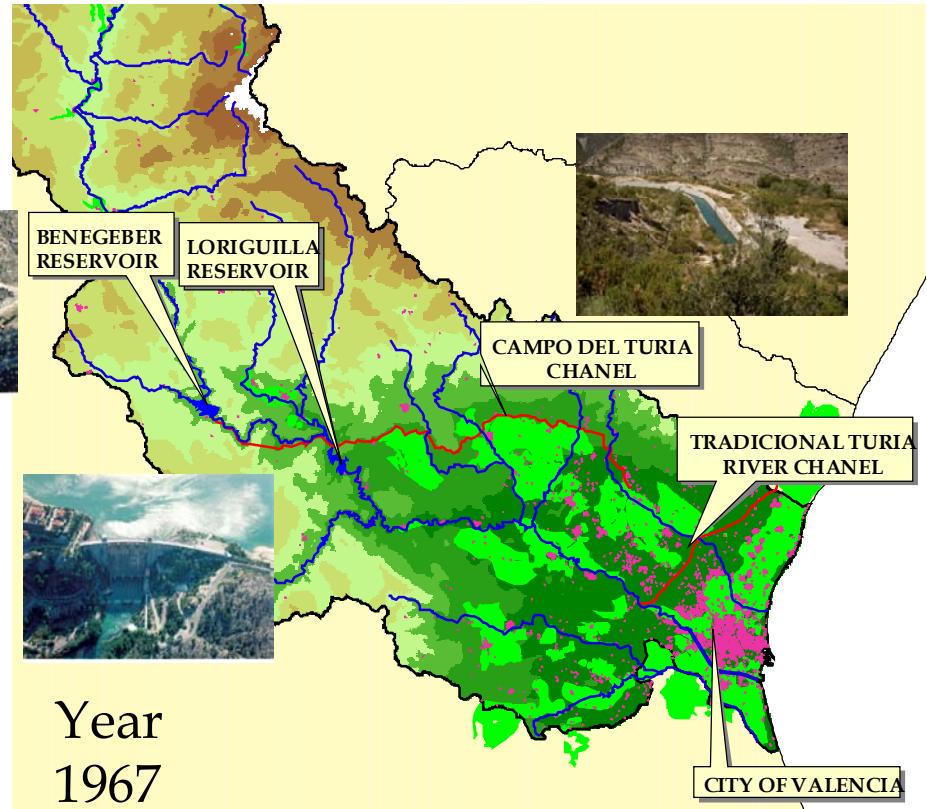
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Main hydraulic infrastructure at Benageber-Loriguilla System



Year
1955



Infraestructuras. Cánones y costes					
Infraestructura:	10	BENEGEBER-LORIGUILA	Buscar		
Descripción Costes de la Infraestructura Histórico de cánones devengados Usuarios afectados Cánones aplicados					
Ano	Cos	Coste Directo €	Coste Indirecto €	Ari	Amortización €
1996		168,912.19	314,993.04	00	37,897.16
1997		157,318.42	324,468.87	00	66,058.42
1998		168,900.90	367,553.14	00	91,370.75
1999		196,764.17	349,326.62	00	89,392.11
2000		230,763.96	387,912.02	00	635,482.90
2001		252,058.47	401,674.71	00	742,887.63
*					

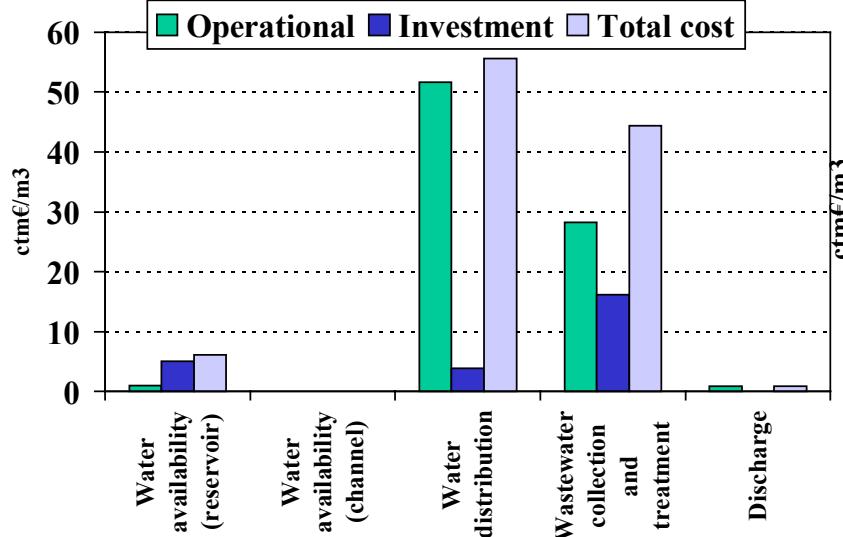
Registro: 1 | 1 | 1 | 1 | 1 | * de 6



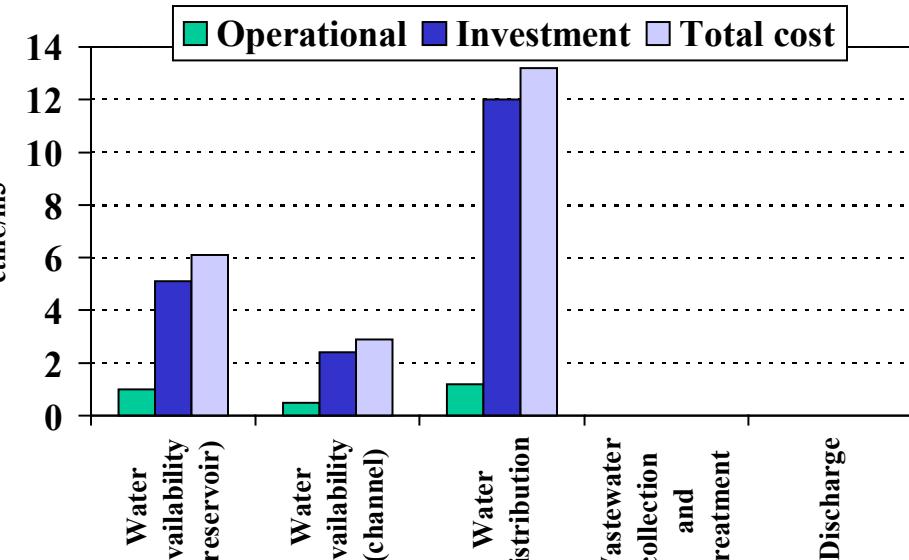
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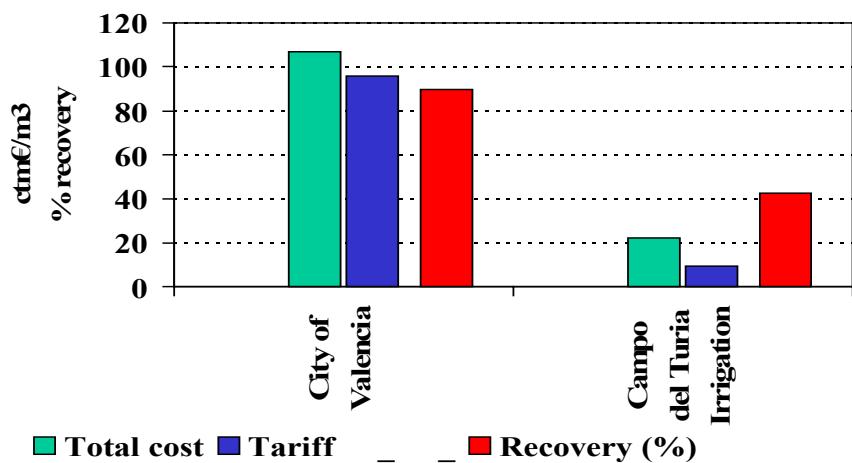
Cost recovery analysis



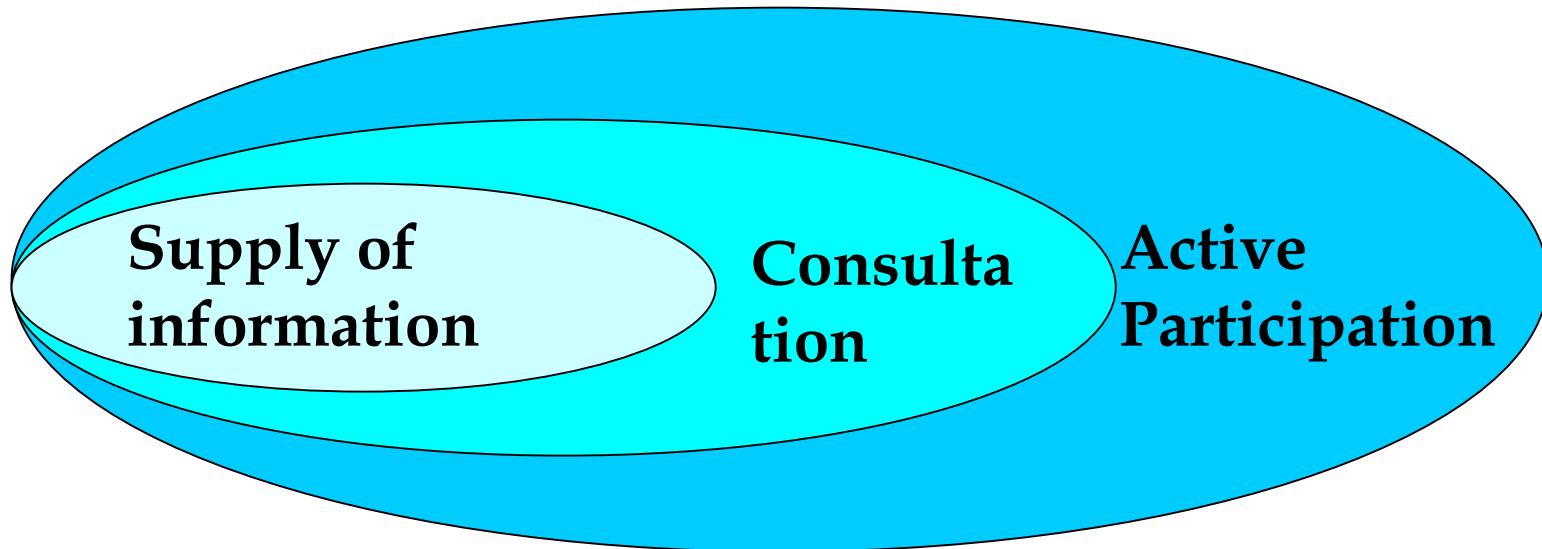
Costs for urban users



Costs for irrigation users



Public Participation



Supply of information: WEB page

The screenshot shows a Microsoft Internet Explorer window displaying the website for the Confederación Hidrográfica del Júcar. The title bar reads "Confederación Hidrográfica del Júcar - Microsoft Internet Explorer". The menu bar includes "Archivo", "Edición", "Ver", "Favoritos", "Herramientas", and "Ayuda". The toolbar includes standard icons for Back, Forward, Stop, Home, Search, Favorites, Multimedia, and others. The address bar shows the URL "http://www.chj.es". The page header features the Spanish coat of arms, the text "MINISTERIO DE MEDIO AMBIENTE" and "CONFEDERACIÓN HIDROGRÁFICA DEL JÚCAR", and three small aerial photographs of river scenes.

The main navigation menu at the top includes "Inicio", "Organismo", "Cuenca", "Comisaría de Aguas", "Dirección Técnica", "Secretaría General", and "Oficina Planificación Hidrológica".

The left side of the page features a map of Spain with the Júcar river basin highlighted in yellow, and two small images: one of a modern building and another of a construction site with heavy machinery.

The central content area contains a welcome message in Spanish:

Bienvenidos a este espacio informativo de la Confederación Hidrográfica del Júcar.
Las nuevas tecnologías nos brindan la posibilidad de hacer que el público en general conozca más ampliamente un organismo que, para muchos, es un gran desconocido. Por ello, queremos ofrecer una información práctica y actualizada a la vez que facilitar un contacto directo con los ciudadanos.

Below this message are several links:

- Texto íntegro DMA (PDF)
- Objetivos y tareas DMA
- Estrategia de implantación
- Cuencas piloto europeas: El caso del Júcar
- Actividades de la cuenca piloto del Júcar
- Presidente

To the right of the central content area is a sidebar with the following links:

- Funciones
- Actividades
- Plan Hidrológico de cuenca
- Plan Global Inundaciones ribera Júcar
- Plan Estratégico Gestión Sequías (PDF)
- Informes estado cuenca
- Cuenca Piloto Directiva Marco del Agua
- Mapas

Below these are more links under the heading "INTERES":

- Imágenes
- Vídeos
- Enlaces
- Mapa Web

At the bottom of the sidebar is a "Contactar con la CHJ" section with an email icon.

At the very bottom of the page, there are links for "REMOC", "Situación Embalses", "SAIH", "Cuenca Piloto UE", and the European Union flag.

The status bar at the bottom of the browser window shows "Listo" and "Internet".

Web Page <http://www.chj.es>



Supply of information and consultation

- *Droughts within the European Water Framework Directive and implications on river basin districts.* Seminario Internacional sobre gestión de recursos hídricos en situaciones de sequía, Universidad Politécnica de Valencia, marzo 2003.
- Reunión de coordinadores europeos de cuencas piloto en el Joint Research Centre, ISPRA, Italia, *Presentación del avance de los trabajos en la cuenca del Júcar.* Abril 2003. *La Directiva Marco del Agua.* Sala de Juntas de la Confederación Hidrográfica del Júcar. Abril 2003.
- *La Directiva Marco del Agua y la cuenca piloto del Júcar.* Escuela de Caminos de la UPV. 15 mayo 2003, Valencia
- *Análisis económicos en la cuenca piloto del Júcar.* Sala de reuniones de la DGOHCA, 4 junio 2003. Ministerio de Medio Ambiente. Madrid. *The jucar river basin - First results,* Seminar organised by EC on Integrated management -The river basin perspective, 2003, Athens, Greece.
- *Meeting with ONGs (Organizaciones No Gubernamentales).* Septiembre 2003
- *Presentación The pilot Jucar River Basin. Economical analysis of water uses and cost recovery.* Paris, octubre 2003.
- *Presentación del artículo La Directiva Marco del Agua y la cuenca piloto del Júcar.* Congreso Mundial de la IWRA celebrado en octubre, Madrid.

European Research and Development Projects

- Confederación Hidrográfica del Júcar is taking part in the project HARMONIRib funded by EC.
- Partners: Centre for Ecology and Hydrology (CEH) of England , Geological Survey of Denmark, DHI of Denmark, CNR-IRSA (Italy), IDR UCLM (Spain), etc