



SCARCE Newsletter I

February 2011



SCARCE (Assessing and predicting effects on water quantity and quality in Iberian Rivers caused by global change) is a Consolider-Ingenio 2010 research project financed by the Spanish Ministry of Science and Innovation that aims to examine and predict the relevance of global change on water availability, water quality and ecosystem services in Mediterranean river basins of the Iberian Peninsula, as well as their socio-economic impacts.

11 partner Spanish institutions combine their efforts, organized in 10 workpackages from different disciplines, to study the Llobregat, Ebro, Júcar and Guadalquivir river basins.

Since the start of SCARCE in December 2009 a series of events and activities have taken place:

- Kick-off meeting: it brought together the whole consortium of SCARCE, as well as, local and international guests. In total, more than 140 people met in Barcelona on the 7th of April of 2010.



- Several Principal investigators meetings, as well as, Workpackage meetings (both inter and intra workpackage) have been held during 2010 to discuss details of sampling

strategies and schedules, selection of sites, and contaminants of interest, and to decide about basin scale data requirements, for modeling and strategies of data compiling.

- 1st SCARCE annual conference: more than 110 participants, including representatives of the External Advisory Committee and special guests, joined for the 2 days-event. The debate on the different aspects of water scarcity, ranging from the global to local aspects, was a full success. It resulted in an interesting exchange of the latest information and ideas among scientists bearing pluridisciplinary approaches.

Exchange of knowledge is one of the purposes of SCARCE. This has been done by organizing training courses for students and scientists participating in the project, but they are also open to the general public:

- Structural and functional responses of river ecosystems to multiple stressors (Bilbao, 21-22 October 2010): with the participation of 8 lecturers and 24 students. The arrangement of the topics and case studies resulted in open discussions and lots of interaction within the students.
- Analysis, fate and risks of organic contaminants in river basins under water scarcity (Valencia, 7-8 February 2011): with the participation of 8 lecturers and 26 students. It was an interesting overview of the whole analytical

process for analyzing environmental samples.

- The next course on “Economics for water services management” will be held in Sevilla in April 2011. More details in the following Newsletter.

Once the sampling sites had been determined, the first **sampling and exploration activities** have taken place in the four basins of study, including:

- **Chemical sampling:** a total of 77 water samples, 75 sediment samples and 63 fish pools have been collected for the analysis of priority and emerging compounds.
- **Biological sampling:** invertebrate community has been sampled in 5 sampling sites in each basin along a contamination gradient. The parameters analyzed are: density of invertebrates, biomass, species composition and biochemical markers (concentration of lipids and oxidative enzymes).
- **Morphological sampling:** it consists in the characterization of the key hydraulic, sedimentary and vegetation parameters at the 77 selected sites along the four representative basins.
- **Ecosystem processes:** experiments on decomposition of organic matter

have been performed at the 77 reaches included in the project.



Furthermore, the **SCARCE Website** (www.idaea.csic.es/scarceconsolider) is now fully functional and 80 project participants as well as associated researchers are registered in the “who is who”. The website provides information such as an overview about the project, its structure, activities, publications, etc. Details about the peer review panel are also available. Online inscription to the organized workshops, courses and conferences is available through the website. Through the establishment of the SCARCE Website the project has obtained its visibility to the public and it constitutes a platform for information exchange for the project partners.

SCARCE has generated several **publications**, which have been published in peer reviewed journals and presented in international conference presentations.

SCARCE Project information

Website: www.idaea.csic.es/scarceconsolider
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Assessing and predicting effects on water quantity and quality in Iberian rivers caused by global change (SCARCE)

**CONSOLIDER-INGENIO 2010
(CSD2009-00065)**

Start date of the project: 17th December 2009

Duration: 5 years

PUBLICATIONS

ANDREU, J., MOMBLANCH, A., SOLERA, A., PAREDES, J. and PÉREZ, M.A. Potential role of standardized water accounting in Spanish basins. *J. International Water Accounting: Effective Management of a Scarce Resource*. Edward Elgar Publishing Limited

BARAHONA-PALOMO, M., RIVA, M., SANCHEZ-VILA, X., VAZQUEZ-SUNE, E. and GUADAGNINI, A. Quantitative comparison of impeller-flowmeter and particle-size-distribution techniques for the characterization of hydraulic conductivity variability. *Hydrogeology Journal* (2011), DOI 10.1007/s10040-011-0706-5

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ORAL COMUNICATIONS

Presentation of the project

NAVARRO-ORTEGA, A., SABATER, S., MUÑOZ, I., SANCHEZ-VILA, X., CONDE, C., PICO, Y., LA-ROCA, F., BLASCO, J., ELOSEGI, A., SHUHMACHER, M., BATALLA, R., FRANCES, F. and BARCELÓ, D. The SCARCE consolider project on Iberian river basins.

- Workshop on Climate Change Impacts and Adaptation: Reducing Water-related Risks in Europe. Brussels (Belgium), 6-7 July 2010
- WssTP Workshop: Climate change & Hyrdo-Climatic Events. Barcelona, 8 April 2010
- 20th Annual Meeting Society of Environmental Toxicology and Chemistry (SETAC-Europe 2010), Sevilla (Spain), 23 May 2010
- VII ANQUE International Congress. Oviedo, 16 June 2010
- International Workshops on the implementation of the EU Flood directive in Mediterranean areas. IMPRINTS. Barcelona, 17 June 2010
- 28th International Symposium on Chromatography. Valencia, 12 September 2010

BLASCO, J. The SCARCE Project: Assessing and predicting global change effects on Iberian river basins. VIII Congreso Ibérico, V Iberoamericano de Contaminación y Toxicología Ambiental (CICTA-2010). Heredia (Costa Rica), 29 November 2010

Presentations related with the project

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ARTIGAS, J., DURAN, C., PÉREZ, M.C., ROMANÍ, A.M., SOLEY, S., TIMONER, X., TORNÉS, E., YLLA, I. and SABATER, S. Phosphorus cycling in phyto and bacterio plankton in the Ebro river: differences between sections upstream and downstream of reservoirs. XV Congreso de la Asociación Ibérica de Limnología. Ponta Delgada, Azores (Portugal), 5 July 2010

BARRIOS, M., OROZCO, I., LÓPEZ, J. and FRANCÉS, F. Influencia de momentos de segundo orden en el escalamiento espacial de parámetros hidrológicos. XXIV Congreso Latinoamericano de Hidráulica. Punta del Este (Uruguay), November 2010

GALLART, F., LLORENS, P. and MARCÉ, R. Analysing the historical trends of water resources and land cover in the headwaters of the Llobregat and Ter river basins (Catalonia, Spain). VII European Geophysical Union General Assembly. Viena (Austria), May 2010

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