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# EMWIS - Euro-Mediterranean Water Information System

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# New technologies for better information in the Mediterranean

(The News N° 21 - January 2011)

**The Euro-Mediterranean Water Information System (EMWIS)** organized, with the European Space Agency, a workshop in Frascati near Rome in late September 2010 on inputs from space technologies for the water sector. For countries that have no adequate measurement network for the characterization and monitoring of their water resources, technology applications of Earth observation provide reliable and affordable solutions to be quickly implemented. There are many possible applications : water resources mapping, follow-up of indicators on drought, assessment of man made pressures (irrigated, urban and discharge areas, etc.), flood and drought warning systems, identification of unauthorized abstractions, identification of pollution, improving efficiency in irrigation, etc. The success of these applications goes through partnerships between space remote sensing centers and water authorities and capacity building of stakeholders so that they can appropriate the use of these technologies.

## **Advantage of exchanges of experience about the Water Framework Directive**

The working groups of the Joint Process between the Water Framework Directive (WFD) and the Med-component of the EU Water Initiative are the opportunity of fruitful exchanges of experience :

**- The working group on water scarcity and drought (WS&D) met on 17 February 2010 in Madrid in parallel with a meeting of the European experts' group on the Water Framework Directive (WFD) working on the same subject.**

The meeting stressed the need to launch a new phase for the next 3 years.

The participants discussed various types of indicators to meet goals such as planning, current management, managing crisis situations, impact assessment, etc. A preliminary analysis of data availability for the development of such indicators was launched with the Mediterranean Partner Countries. In parallel, a pilot data collection with quality control and calculation of indicators was carried out in two pilot river basins : Sebu (Morocco) and Litani (Lebanon). This exercise was carried out by using the approach and tools developed for the EU expert group working on these issues. A summary was published and other pilot river basins could conduct this exercise in the near future.

The importance of linking indicators with simulation models and Decision-making Supporting Systems was also addressed, in particular for the implementation of participatory processes with end users (e.g. drought or scarcity management plan).

**- The 2nd working group on monitoring and water quality control networks in the Mediterranean Partner Countries, who met in November 2010, highlighted the major challenges to which pilot projects should give responses :**

- fragmentation of responsibilities in water quality control ;
- coordination to improve efficiency and quality of measures ;
- interest to include targets on water quality in agreements on transboundary resources ;
- better dissemination of information on water quality ;
- need for characterization of Water Bodies and economic analyses to optimize management programs.

## **Towards a shared environmental information system in the Mediterranean**

The European Commission and the European Environment Agency (EEA) launched work on the implementation of a Shared Environmental Information System (SEIS) in Europe and in the neighboring countries. EMWIS is one of the

partners chosen by the EEA for the early stages of implementation in the Mediterranean countries. Indeed, the recent work of EMWIS on the harmonization of National Water Information Systems (NWIS) contributes to the development of components for SEIS : metadata catalogue coupled with a tool for map visualization, harmonization of water data, based on the System of Environmental- Economic Accounting for Water (SEEAW), recommendations for compatibility of the NWIS with the Water Information System for Europe (WISE) and the INSPIRE Directive.

# The Mediterranean countries organize access to water information

(The News N° 17 - February 2010)

Thanks to the support reiterated in 2009 by the DG Environment of the European Commission, two series of actions were carried out by **EMWIS - Euro-Mediterranean Water Information System** - to help the Mediterranean Partner Countries organize their water data to facilitate their access and to acquire the knowledge necessary for good management.

**This project is based on the good practices resulting from the Water Information System for Europe (WISE).**

First of all a generic model at three levels (entity, variables, attributes) was defined to represent and manage information on water. This model supplements the technical recommendations of the WISE system to guarantee communication possibilities with the National Information Systems and the comparison of data.

A drafted technical guidebook based on this model was presented to EMWIS National Focal Points and is available for the countries to build their own system.

**A prototype catalogue of the sources of water information in the Mediterranean area was then implemented** after analysis of the existing experiments, of the tools available in open source software, of the requirements of the European **INSPIRE** Directive on spatial information and of the **WISE** system. This catalogue is a kind of inventory which allows easy search by key words or on a map and gives access to descriptive sheets of the data sources (maps, data bases, reports, online services), and even direct access to the data when the owner allows it.

The use of international standards and common rules by all the interested parties will allow an automatic collection of these sheets.

**More recently, a pilot project for harmonizing data for the implementation of the Tunisian National Water Information System (SINEAU) began in June 2009.** It is based on the System of Economic and Environmental Accounting for Water -SEEAW- defined by the United Nations, and on the work undertaken in this field in the MEDTSAT II project with the Statistic Institutes of each country.

This action led in particular to an agreement between the Tunisian stakeholders for data sharing which is one of the conditions of the 1.973 million grant from the African Water Facility for the system in 2010.

A second pilot project should start in Jordan in the 1st half of 2010. National workshops on the progress of the Water Information Systems will be organized in six Mediterranean countries, they will allow presenting achievements and the tools developed at the regional level.

Two working groups, led by **EMWIS within the EU Water Initiative in the Mediterranean and Water Framework Directive joint process (MED-EUWI)**, are sharing experience and gathering information on :

- **Water monitoring networks and programs**, for which a survey-based inventory was prepared and discussed during a workshop organized as a side event of MENBO General Assembly in Beirut in October 2009. This inventory contributes to the work of the monitoring sub-group of Horizon 2020 Initiative aiming at removing pollution in the Mediterranean Sea and of the experts' group on water of the Union for the Mediterranean ;
- **Drought and water scarcity**, for which a workshop is organized in February 2010 in Spain to evaluate the indicators used by the Partner Countries and those proposed at the European level and to analyze case studies on the mitigation measures planned by the countries. This work will result in a regional synthesis in 2010.

These actions will be supplemented in 2010 by **the updating of the Water Thesaurus accessible on line in 7 languages (English, Arabic, Spanish, French, Italian, Greek and Turkish) on EMWIS website** in order to take into consideration the vocabulary specific to water accounts, the Horizon 2020 Initiative and some concepts suitable for water management in Arab countries.