

# **Towards a Mediterranean Water Information Mechanism compatible with the Water Information System for Europe (WISE)**

## **Terms of references for short term experts**

### **1. BACKGROUND**

From January 2008 till June 2009, EMWIS Technical Unit is managing a project funded by the DG Env of the European Commission, entitled “Towards a Mediterranean Water Information Mechanism compatible with the Water Information System for Europe (WISE)”.

The objective of this project is to prepare a Mediterranean information mechanism on water which is compatible with the Water Information System for Europe –WISE- and that will support the Med Joint Process between the EU Water Initiative and the Water Framework Directive. This mechanism will stream line the access to quality data related to water in the Mediterranean Partners Country (MPC).

The water authorities of the MPC have shown a great interest in developing National Water Information Systems to improve integrated water resources management in their countries (cf feasibility studies carried out by EMWIS on national systems and regional observatory mechanism). The technical guidelines that will be produced by the project will help these countries to build systems compatible with the EU system WISE. Adopting these guidelines has a clear added value for the Med Neighbourhood countries of the EU that will benefits from the experience of EU countries for both data and water management.

But in order to motivate all water stakeholders of non EU countries to provide services compliant with EU standards, an information product will be prepared on the basis of the data to be managed by the Mediterranean system. The focus will be on water quantity indicators necessary for the management of water scarcity and drought.

By establishing an information system open to all Mediterranean partners but based on EU practice, partner countries characterised by developing economies or by economies in transition will be helped with greater information access. This will facilitate the establishment and implementation of policies compatible with the principles of sustainable development promoted by the EU

The project will provide:

- An online metadata catalogue of water information sources in Med Partner Countries
- A regional synthesis on water quantity issues related to water scarcity and drought (exact issue to be defined during the project)
- A set of online tools for data collection, enhancement and access including web mapping tools
- Technical guidance for developing water information system interoperable with WISE
- Support for the organisation of a working group meeting of the Med Joint Process on water monitoring and one on water scarcity and drought



- A Mediterranean web entry point within WISE

Project's outputs will be available for similar development in other Neighbourhood countries and for managing other topics (e.g. water quality issues, waste water treatment, etc.).

The main activities planned are (see the abstract of the project technical annex for more details):

- Preparing a Mediterranean entry point to WISE (WP 6)
- Drafting guidelines for setting up National water information systems compatible with WISE in Med Partner Countries (WP 3)
- Developing a metadata catalogue of water information sources in Med Partner Countries (WP 2)
- Preparation of a regional thematic report based on data collected (WP 4)
- Support to "water monitoring" and "water scarcity & drought" working groups of the Med Joint Process EUWI / WFD (WP 5)
- Dissemination (WP 7)
- Coordination (WP 1)

These activities will be carried out with the EEA, JRC, DG ENV, country representatives and short term experts.

## 2. KEY ASSIGNMENTS

The profile planned for the short term experts are as follows:

Category	# days planned	Budget available (EUR)	Comment
Water information system expert	122	57 611	Metadata catalogue (WP2)
Hydro-geologist expert in water quantity evaluation	25	11 806	On resources and uses
IT development / web design	50	21 000*	Integration of EMWIS portal with WISE
Hydro-geologist, expert in water monitoring network	15	4 500*	In MPC countries
Hydro-geologist, expert on water scarcity & drought	25	7 500*	In MPC countries
Water information system expert	40	12 000*	Guidance and standard for NWIS in Med countries

(\*) will require procurement procedures

The activities foreseen for each of them are detailed in the next chapters. These positions can be fulfilled by one or several experts with complementary profiles. In case of applications from several experts, the amount of working days planned for each of them should be mentioned.

## 3. WATER INFORMATION SYSTEM EXPERT

### 3.1. Overview



Objectives	Preparation of a metadata catalogue of water information sources
Activities	<p><b>Task 1 Review of existing tools</b>  Today WISE does not include metadata, but the WISE Technical Group is starting to explore the setting up of a metadata catalogue which is necessary for discovery services (i.e. searching for existing information/data sources) within the distributed architecture promoted by INSPIRE. For the Mediterranean Water Observation Mechanism study; Geonetwork (open-source tool developed by UN-FAO) has been successfully evaluated. An analysis and comparison of existing tools will be carried out in order to find-out the most suitable solution.</p> <p><b>Task 2 Definition of reference labelling</b>  The setting up of a metadata catalogue requires the definition of a number of references to label the metadata such as categories, a closed list of keywords, geographical glossary, metadata profiles (including format ISO, Dublin Core, etc. and mandatory fields). As usually metadata are collected in local language, it will be necessary to define multilingual management rules at least for the reference labelling in order to allow cross-lingual search.</p> <p><b>Task 3 Animation of an expert workshop on metadata management</b>  A workshop will be organised to define common procedures and common rules on metadata management (tools, categories, keywords, geographical glossary, metadata profiles). This workshop will involve WISE TG members, international experts and national experts from water authorities.</p> <p><b>Task 4 Implementation of the online catalogue selected</b>  A tool will be selected, adapted and implemented using the agreed procedures in order to be available on the web. Preparation of a guidance document to allow user to add metadata easily.</p> <p><b>Task 5 Metadata collection</b>  The declaration of metadata will be opened to any organisation managing data within the Mediterranean countries or at the regional level. The promotion will be done through the EMWIS e-flash mailing list (10000 subscribers) in order to get voluntary contributions on various topics</p>
Expected results	<ul style="list-style-type: none"> <li>- Report on existing tools and definition of references for metadata labelling</li> <li>- Minutes of the expert workshop</li> <li>- User Guidance document for the online catalogue tool selected</li> </ul>
Meetings planned	<ul style="list-style-type: none"> <li>- workshop : 2 days</li> <li>- Meeting to valid the metadata reference system : 1 day</li> </ul>
Effort / budget planned	122 person-days 57 611 EUR (VAT included)
Period of execution	

### 3.2. Expert profile

#### *Qualifications and skills:*

University degree in Computer Sciences, Management of Information Systems (MIS) or equivalent. Fluent both in English or French, while knowledge of Arabic would be considered as an additional asset.

#### *General professional experience:*

Minimum 5 years of professional experience including the design and implementation of geospatial catalogues, water information systems, Internet standards, Data interchange. Some experience with the public sector would be considered as an asset.



### *Specific professional experience*

Specific experience in service interoperability, standardisation of data exchanges and metadata catalogues is required. Experience in web services, XML standards implementation, Geographical Information Systems and water information systems would be considered additional assets. Some working experience in developing countries, and particular in Mediterranean partner countries, would be highly desirable.

## 4. HYDROGEOLOGIST - WATER QUANTITY EXPERT

### 4.1. Overview

Objectives	Support for the Med working groups on monitoring and water scarcity & drought Preparation of a synthesis report on water resources and use
Activities	<p><b>Task 1: Support to water scarcity and drought working group</b> This working group has already produced a preliminary report in 2006 and an extended version is under preparation. A meeting will be organised back to back to an EU WS-D working group meeting in order to select the indicators and the related basic aggregated data items. Working group members will be asked to provide data, indicators and map for the preparation of a regional synthesis.</p> <p><b>Task 2: Support to water monitoring working group</b> Preparation of survey template to analyse existing water monitoring networks in MPC along the lines of the WFD principles. Presentation of results during a WG meeting to discuss the first results of this survey and review the WFD monitoring guidelines. The objective will be to prepare recommendations to improve monitoring networks in MPC in order to provide the aggregated data items necessary to produce the indicators for the information product on water resources and uses.</p> <p><b>Task 3 Analysis of data and production of common outputs</b> Common outputs (e.g. maps, indicators, briefing note) will be produced showing the result of the data collection and processing on European and Mediterranean countries. This task will be carried out with the support of the EU and Med working groups on water scarcity and drought.</p> <p><b>Task 4 Analysis of gaps for data provision and recommendations for improvements</b> A report will be prepared highlighting the existing gaps in data items necessary to produce the identified aggregated indicators. This report will include some recommendations to improve the provision of the necessary data items. This task will be carried out with the Med working group on water monitoring.</p>
Expected results	<ul style="list-style-type: none"><li>- Report on water monitoring in the Mediterranean Partner Countries</li><li>- Regional synthesis on water scarcity and drought based on data collected</li><li>- Report on gaps for data provision and recommendation for improvements</li></ul>
Meetings planned	2 working groups meetings (one on monitoring, one n WS & D)
Effort / budget planned	25 person-days 7 500 EUR (VAT included)
Period of execution	



## 4.2. Expert profile

### *Qualifications and skills:*

University degree in hydrology or equivalent. Fluent in English and/or French, while knowledge of Arabic would be considered as an additional asset.

### *General professional experience:*

Minimum 5 years of professional experience on water management including data analysis on water quantity and quality, water use (urban, agriculture, industry).

### *Specific professional experience*

Specific experience in the EU-WFD in the fields of monitoring as well as water scarcity & drought is required. Some working experience in developing countries, and particular in Mediterranean partner countries, would be highly desirable.

## 5. IT DEVELOPMENT / WEB DESIGN

### 5.1. Overview

Objectives	Integration of EMWIS portal with WISE
Activities	<p>Task 1 Implementation of data collection tools, based on components available at the EEA, e.g. reportnet. Data providers should be able to supply their data in a secure way using various means: spread sheet, data base, XML files, reports, etc.</p> <p>Task 2: Implementation of data consultation tools, based on existing tools identified in WP3 (e.g. EEA web map viewer). They will be adapted to produce online interactive maps and consultation of the indicators.</p> <p>Task 3 Adaptation of EMWIS and WISE Web portals in order to present EMWIS portal as the Med component of WISE (WP6). This task will include the revision of WISE design rules in agreement with the EEA and EMWIS; the revision of EMWIS portal structure (content), design (to comply with WISE rules) and features provided (map viewer, data consultation, metadata catalogue, etc.)</p>
Expected results	Revised WISE website design (style sheet) Upgrade of EMWIS portal
Meetings planned	2 meetings
Effort / budget planned	50 person-days 21 000 EUR (VAT included) – selection based on procurement rules
Period of execution	

### 5.2. Expert profile

#### *Qualifications and skills:*

University degree in Computer Sciences, Management of Information Systems (MIS) or equivalent. Fluent in English, while knowledge of Arabic would be considered as an additional asset.

#### *General professional experience:*

Minimum 5 years of professional experience including the design and development of web sites, distributed heterogeneous information systems, web crawler, search engine,



Content Management Systems, Database platforms, Internet standards, Data interchange. Some experience with the public sector would be considered as an asset.

*Specific professional experience*

Specific experience is required on: Design and development of Internet Portal Sites (NAAYA platform or ZOPE environment) and corporate intranets, service interoperability and standardisation of data exchanges. Experience in web services, XML standards implementation, Geographical Information Systems and water information systems would be considered additional assets. Some working experience in developing countries, and particular in Mediterranean partner countries, would be highly desirable.

## 6. HYDROGEOLOGIST - WATER MONITORING EXPERT

### 6.1. Overview

Objectives	Support to the water monitoring working group
Activities	Validate survey design Contribution to a meeting of the Med water monitoring working group Contribution to the preparation of the working group report
Expected results	Med water monitoring working group report
Meetings planned	1
Effort / budget planned	15 person-days 4 500 EUR (VAT included) – selection based on procurement rules
Period of execution	

### 6.2. Expert profile

*Qualifications and skills:*

University degree in Hydrology. Fluent in English and/or French, while knowledge of Arabic would be considered as an additional asset.

*General professional experience:*

Minimum 5 years of professional experience including the design, implementation and operation of monitoring networks for surface and ground waters.

*Specific professional experience*

Specific experience in water quantity monitoring is required. Some working experience in water quality monitoring would be an asset. Experience in Mediterranean partner countries would be highly desirable.

## 7. HYDRO-GEOLOGIST - WATER SCARCITY & DROUGHT

### 7.1. Overview

Objectives	Support to the water scarcity & drought working group
Activities	Contribution to a meeting of the Med water monitoring working group Contribution to the preparation of the working group report



Expected results	Regional synthesis on water scarcity and drought based on data collected
Meetings planned	1
Effort / budget planned	25 person-days 7 500 EUR (VAT included) – selection based on procurement rules
Period of execution	

## 7.2. Expert profile

### *Qualifications and skills:*

University degree in hydrology. Fluent in English and/or French, while knowledge of Arabic would be considered as an additional asset.

### *General professional experience:*

Minimum 5 years of professional experience on integrated water management in dry areas. Some experience with the public sector would be considered as an asset.

### *Specific professional experience*

Specific experience in water management in a framework of drought and water scarcity is required including the definition of relevant indicators and related thresholds. The evaluation of socio-economic impacts of drought and water scarcity will be considered as an asset. Experience in various Mediterranean countries (including non EU) would be highly desirable.

## 8. WATER INFORMATION SYSTEM EXPERT

### 8.1. Overview

Objectives	Guidance and standard for NWIS in Med countries
Activities	<p><b>Task 3.1 Review and adaptation of existing EU guidance documents</b> The main existing documents adopted by the EU will be review in order to highlight interoperability principles in terms of reference datasets, data structure and services. The main sets of documents to be considered are:</p> <ul style="list-style-type: none"> <li>- WFD guidance documents,</li> <li>- WISE technical rules,</li> <li>- INSPIRE directive and related guidance documents</li> </ul> <p>These principles will be compared to the ones used in the MPC on the basis of EMWIS studies on NWIS and the Med water observatory mechanism (national reports will be provided). For data sets, priority will be given to issues of interest for MPC. Thus the EU interoperability principles will be ordered according to the MPC priorities.</p> <p>On this basis, and taking into account the current status of development in the MPC, technical interoperability principles will be proposed.</p> <p><b>Task 3.2 Adoption of common geographical references and structures</b> Geographical reference rules necessary to localise the datasets will be defined taking into account the management units used by MPC (administrative or hydrological) and for WISE. In order to get a first set of</p>



	<p>operational geographical references a mix approach will be considered based on both administrative and river basins or aquifer. In agreement with the consultant, the EMWIS Technical Unit could carry-out a survey on MPC practices.</p> <p><b>Task 3.3 Drafting technical guidelines</b></p> <p>These guidelines will propose a two levels approach to reflect the current status of WISE development. Indeed, the technical specifications of the foreseen distributed architecture of WISE are not yet defined. The first level of guidance will include detailed technical principles already used in WISE while the second level will provide more general principles about the evolution of the technical architecture towards a shared information system.</p> <p>It will also identify the potential (software) tools that could be of interest for the Mediterranean information mechanism development.</p>
Expected results	<p>D3.1 – Comparison between WISE and emerging Med WIS</p> <p>D3.2 – Definition geographical references for MPC</p> <p>D3.3 – Technical guidelines for interoperability</p>
Meetings planned	
Effort / budget planned	<p>40 person-days</p> <p>12 000 EUR with procurement procedure (VAT included)</p>
Period of execution	

## 8.2. Expert profile

### *Qualifications and skills:*

University degree in Computer Sciences, Management of Information Systems (MIS) or equivalent. Fluent both in English or French, while knowledge of Arabic would be considered as an additional asset.

### *General professional experience:*

Minimum 5 years of professional experience in water information systems engineering, distributed heterogeneous information systems, hydrological data exchange specifications.

### *Specific professional experience*

Specific experience in WISE implementation and interoperability, spatial information standardisation and data exchanges. Experience in web services, XML standards implementation, Geographical Information Systems would be considered additional assets. Some working experience in developing countries, and particular in Mediterranean partner countries, would be highly desirable.



## **9. LOGISTICS FOR ALL EXPERTS**

### **9.1. Location**

The operational base for the contract will be the EMWIS Technical Unit in Sophia Antipolis, France. The consultant can work remotely from its own location. The consultant will have to travel to the meetings location, travel costs and perdiem will be covered by EMWIS Technical Unit.

### **9.2. Timesheets**

At the end of every month, the consultant will have to provide the EMWIS Technical Unit a timesheet presenting the effort spent on this contract during the month and listing the main activities carried out.





**Contracting Authority:**  
**European Commission**  
**Directorate-General for Environment**

**Thematic Programme for Environment and  
sustainable management of Natural Resources,  
including energy (ENRTP)**

**Grant Application Form**

**Budget line 210401**

**Priority 4 Targeted projects 2007**

Name of applicant:	UT SEMIDE/ EMWIS TU	
Title of the action:	Towards a Mediterranean Water Information Mechanism compatible with the Water Information System for Europe (WISE)	
Location(s) of the action:	<i>Mediterranean Partner Countries: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Syria, Tunisia, Turkey and the Palestinian Authority</i>	
<b>Total eligible cost of the action (A)</b>	<b>Amount requested from the Contracting Authority (B)</b>	<b>% of total eligible cost of action (B/Ax100)</b>
375 000 EUR	300 000 EUR	80 %
Total duration of the action:	<i>18 months</i>	

Dossier No	
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(for official use only)

Contact details for the purpose of this action:	
<b>Postal address:</b>	UT SEMIDE BP 23 F-06901 SOPHIA ANTIPOLIS / FRANCE
<b>Telephone number:</b> Country code + city code + number	+33 4 92942290 / 91
<b>Fax number:</b> Country code + city code + number	+33 4 92942295
<b>Contact person for this action :</b>	Eric MINO
<b>Contact person's email address :</b>	<a href="mailto:e.mino@semide.org">e.mino@semide.org</a>

**Any change in the addresses, phone numbers, fax numbers and in particular e-mail, must be notified in writing to the Contracting Authority. The Contracting Authority will not be held responsible in case it cannot contact an applicant.**

### **NOTICE**

All personal data (such as names, addresses, CVs, etc.) mentioned in your application form will be processed in accordance with Regulation (EC) No 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data. Your replies to the questions in this form are necessary in order to assess your grant application and they will be processed solely for that purpose by the department responsible for the Community grant programme concerned. On request, you may be sent personal data and correct or complete them. For any question relating to these data, please contact the Commission department to which the form must be returned. Beneficiaries may lodge a complaint against the processing of their personal data with the European Data Protection Supervisor at any time (Official Journal L 8, 12.1.2001)].

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## APPLICATION FORM

### I. THE ACTION

#### 1. DESCRIPTION

**1.1. Title : Towards a Mediterranean Water Information Mechanism compatible with the Water Information System for Europe (WISE)**

**1.2. Location(s)**

*Mediterranean Partner Countries: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Syria, Tunisia, Turkey and the Palestinian Authority*

**1.3. Cost of the action and amount requested from the European Commission (Contracting Authority)**

Total eligible cost of the action (A)	Amount requested from the Contracting Authority (B)	% of total eligible cost of action (B/Ax100)
375 000 EUR	300 000 EUR	80 %

**1.4. Summary**

Total duration of the action	18 months
Objectives of the action	Contribution to setting up a Mediterranean Information Mechanism on water which is compatible with WISE and development of the Med Joint Process.
Partner(s)	N.A.
Target group(s) <sup>1</sup>	Water authorities in Mediterranean Partner Countries
Final beneficiaries <sup>2</sup>	Water stakeholders in Europe and Mediterranean Partner Countries

<sup>1</sup> “Target groups” are the groups/entities who will be directly positively affected by the project at the Project Purpose level – See paragraph 2.3 in Section II for the list.

<sup>2</sup> “Final beneficiaries” are those who will benefit from the project in the long term at the level of the society or sector at large

Estimated results	<p>Increased accessibility and availability of water data</p> <p>Interface between WISE and the Med Water Information Mechanism</p>
Main activities	<p>Preparing a Mediterranean entry point to WISE</p> <p>Drafting guidelines for setting up National water information systems compatible with WISE in Med Partner Countries</p> <p>Developing a metadata catalogue of water information sources in Med Partner Countries</p> <p>Preparation of a regional thematic report based on data collected</p> <p>Support to Med Joint Process EUWI / WFD</p> <p>Dissemination</p> <p>Coordination</p>

## 1.5. Objectives

The objective of this project is to prepare a Mediterranean information mechanism on water which is compatible with the Water Information System for Europe –WISE- and that will support the Med Joint Process between the EU Water Initiative and the Water Framework Directive. This mechanism will stream line the access to quality data related to water in the Mediterranean Partners Country (MPC).

The water authorities of the MPC have shown a great interest in developing National Water Information Systems to improve integrated water resources management in their countries (cf feasibility studies carried out by EMWIS on national systems and regional observatory mechanism). The technical guidelines that will be produced by the project will help these countries to build systems compatible with the EU system WISE. Adopting these guidelines has a clear added value for the Med Neighbourhood countries of the EU that will benefits from the experience of EU countries for both data and water management.

But in order to motivate all water stakeholders of non EU countries to provide services compliant with EU standards, an information product will be prepared on the basis of the data to be managed by the Mediterranean system. The focus will be on water quantity indicators necessary for the management of water scarcity and drought.

By establishing an information system open to all Mediterranean partners but based on EU practice, partner countries characterised by developing economies or by economies in transition will be helped with greater information access. This will facilitate the establishment and implementation of policies compatible with the principles of sustainable development promoted by the EU

The projects will provide:

- An online metadata catalogue of water information sources in Med Partner Countries
- A regional synthesis on water quantity issues related to water scarcity and drought (exact issue to be defined during the project)
- A set of online tools for data collection, enhancement and access including web mapping tools
- Technical guidance for developing water information system interoperable with WISE
- Support for the organisation of a working group meeting of the Med Joint Process on water monitoring and one on water scarcity and drought
- A Mediterranean web entry point within WISE

Project's outputs will be available for similar development in other Neighbourhood countries and for managing other topics (e.g. water quality issues, waste water treatment, etc.).

## **1.6. Relevance of the action**

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In Athens in November 2006, Euro-Mediterranean Water Directors expressed their interest in a regional water-related information system facilitating access to data. On the EU side, the Water Information System for Europe (WISE) was launched in March 2007 with the objective of having a fully operational system in place for 2010.

The Euro-Mediterranean Information System on know-how in the Water Sector (EMWIS) is an initiative and tool for exchanging information and knowledge in the water sector between and within the Euro-Mediterranean Partnership countries (27 EU Member States plus Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, Syria, Tunisia and Turkey). EMWIS was launched by the Euromed Water Directors at their conference of Naples in December 1997 on the basis of the decisions taken by the Euromed Ministers in charge of Water in Marseilles in November 1996. Further, a European Economic Interest Group EMWIS Technical Unit was created in 1998 by French, Italian and Spanish operators mandated by their governments to implement the activities defined annually by the EMWIS Steering Committee. EMWIS today has 16 active Euromed members: Algeria, Cyprus, France, Egypt, Greece, Israel, Italy, Jordan, Lebanon, Malta, Morocco, Portugal, Spain, Tunisia, Turkey, and the Palestinian Authority.

The Commission has supported EMWIS for the past 7 years, including through a Grant Contract (December 2003 – November 2006). Today the work of EMWIS should be seen in the broader context of the new political initiatives (EUWI, H2020) and avoid any overlapping with other existing information systems.

In Rome in November 2005, Euro-Mediterranean Water Directors asked EMWIS to study “with interested countries, the objectives and the feasibility of building up within EMWIS a regional water observation mechanism to monitor the indicators towards the achievements of the Millennium Development Goals related to water and sanitation (MDG 7) in the Mediterranean, as well as the implementation of the water related section of the Mediterranean Strategy of Sustainable Development, based on the information provided by the National Water Information Systems, whenever they exist.”

A first phase carried out in 2006 and validated by the Euro-Med Water Directors in November 2006, identified two main priority levels of action: the need of reinforcing the capacities of the Mediterranean countries and building a framework cooperation and dialogue between the regional and national organisations.

On the EU side, the development of WISE is led by the European Commission with the support of the European Environment Agency (EEA). Thus, the EEA will play a crucial role in this project, in particular as regards the technical aspects of the interface. EMWIS, with its knowledge of the Mediterranean and its network of National Focal points will bring the necessary expertise to combine the Mediterranean specificities with the requirement of water-related information systems.

At regional level, a number of initiatives have been launched to address the degradation of the environment, some directly linked to water issues. The Turin Action Plan, launched in 1999, identified priorities in the water sector and emphasised the importance of EMWIS as a strategic tool for exchange of information and know-how in the region. After the 2002 Johannesburg World Summit on Sustainable Development, Greece took the lead on the Mediterranean component of the EU Water Initiative (EUWI) with a focus on integrated water management at national and regional level and the development of Country Dialogues on water supply and sanitation. In addition, in 2005, the

Mediterranean Strategy for Sustainable Development (MSSD), under the auspices of the Mediterranean Action Plan (MAP), stressed the importance of better management of water resources and demand as a prerequisite for sustainable development in the Mediterranean. Finally, in 2006, the European Commission launched its environmental strategy to protect the Mediterranean, the Horizon 2020 initiative. This initiative includes a water-related part, mainly focused on sanitation.

On the EU side, the adoption of the Water Framework Directive (WFD - 2000/60/EC) in 2000 established a legal framework to guarantee sufficient quantities of good quality water across Europe. A MED-EUWI / WFD Joint Process between EU and non-EU Mediterranean countries (Med JP) was set up in 2004 in order to develop a common understanding of water management in the region based on WFD principles and to facilitate the implementation of good water management practises. This Joint Process supports the European Neighbourhood Policy's objective of gradual approximation of policy, legislation and practises and thus constitutes a tool for the implementation of the Water part of the Action Plans.

## **1.7. Output and expected results**

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The two main expected results are:

- An increased accessibility and availability of water data in the Mediterranean Partner Countries (MPC)
- A first interface between WISE and the Med Water Information Mechanism

The feasibility study on a Mediterranean Water Observation Mechanism carried out by EMWIS has shown that today the water related indicators collected by international initiatives such as Aquastat (FAO), the UN Joint Monitoring Program –JMP- or the Mediterranean Strategy on Sustainable Development are based on survey or consultancy study because there is no official source of water related data at the national level. As a result, the indicators provided by these international initiatives are often questioned by the National Water authorities. The main reasons are the use of similar but different definitions and the lack of traceability in the data collection processes. The situation could be improved if each country provides officially the data items necessary to calculate the indicators required. WISE and the WFD could help in reaching a consensus on some of the necessary definitions. At the same time, additional work is necessary at the EU level on quantitative issues which is the top priority of Mediterranean Partner Countries. In this way, the project will add value for the Med Partner countries as well as for the EU.

By demonstrating the added value of sharing water data on a specific issue, it is expected that water authorities of Mediterranean Partner Countries will start providing more data.

EMWIS has been launched within the Euro-Mediterranean Partnership framework, covering EU member states and Mediterranean Partner Countries. It started its activity of shared water information system on know-how in the water sector in late 1999. Its approach has already been replicated in Sub-Saharan area (AWIS: African Water Information System), in South America (SIAGUA) and more recently in Central America has shown some interest. The main focus was making available

More recently WISE has been launch with the objective of becoming the source of information on all water related data and information in Europe. Ultimately, WISE is also foreseen to act as a portal for all EU water related activity world wide. Therefore, it is necessary to adapt EMWIS to this new context by creating an interface. The new EU Neighbourhood Policy provides a good framework for such integration. In this way the work done with Med Partner Countries will be replicable for Eastern neighbourhood countries.

Finally, the structure put in place will also allow the future management of data on quality issues necessary for example to monitor the implementation of Horizon 2020 initiative and more generally for the Mediterranean Environment Reporting Mechanism (MERM-MED).

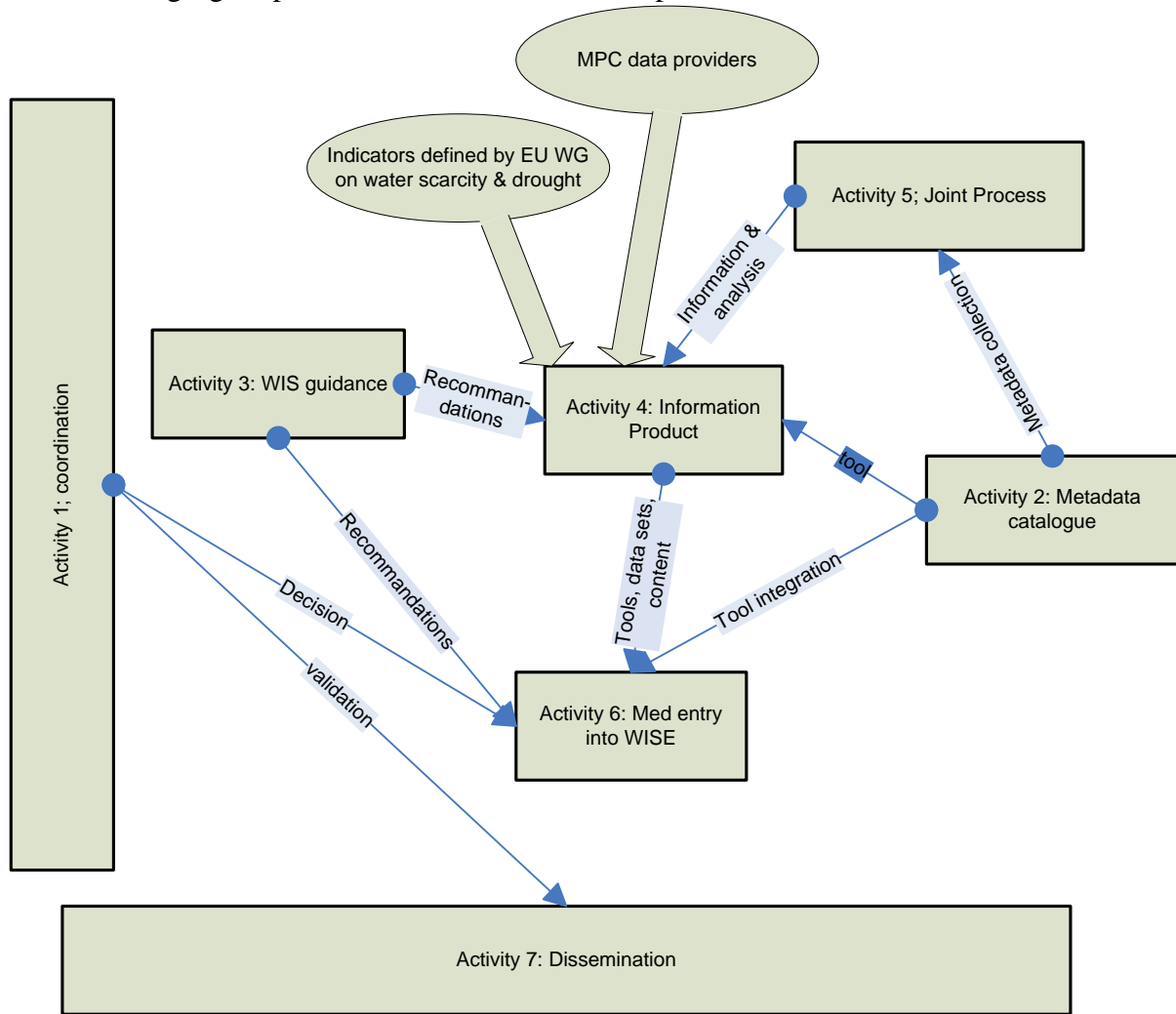
## 1.8. Description of the action and its effectiveness

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The project is organised around seven main activities described in the following pages:

- Activity 1 is related to **Project management and coordination**. Regular contacts will be established with the WISE Technical Group through meetings, internet conference and collaborative working facilities. The project will be steered by EMWIS Steering Committee (involving 13 Euro-med water directors) and the EEA that will meet twice during the project. The overall coordination and reporting will be carried out by the EMWIS Technical Unit
- The second activity will focus on setting up an **online catalogue of metadata** on existing sources of water related data in the MPC. Such catalogue is necessary for the discovery of existing online services in a shared information system architecture promoted by INSPIRE directive. It will require the choice of a tool and standardisation of some items to ensure future interoperability (based on EMWIS and JRC experiences). The metadata collection process will be open to any organisation providing water related data.
- The third activity will result in **technical guidelines** to ensure the interoperability between WISE, the NWIS developed by the MPC and the Med water information mechanism. These technical recommendations will be based on existing EU standards and guidelines (INSPIRE directive, WFD guidance documents, WISE architecture and SEIS principles).
- During the 4<sup>th</sup> activity an **information product** will be developed on the basis of the data collected. Such output will show the added value of a shared data management system where the data is kept as close as possible to the producer. It is foreseen to work on **water quantity indicators** linked to water scarcity and drought (such indicators should be defined by the EU working group on WS\_D during the 1<sup>st</sup> quarter of 2008). An interoperability framework (data models, geographical datasets) will be defined and implemented in order to manage the specific set of data items to produce a valuable indicator at different levels (i.e. river basin, regional level and national levels).
- The **Med Joint Process** working groups on water monitoring and “water scarcity and drought” will provide information for activities 2 and 4, will participate in the preparation of the information product and the analysis of gaps for data provision. These working groups will also benefit from the tools set-up during the projects and will provide feed-back on them.
- The 6<sup>th</sup> activity will make this interface a reality, by adding a **Mediterranean entry point to WISE**. This entry point will include the online metadata catalogue and the specific tools developed during activity 4. Existing information provided by EMWIS will also be included in this entry point
- The last activity will be dedicated to **awareness raising and dissemination** with the preparation of a project leaflet and the dissemination of the 2 main outputs of the project: technical guidance document for NWIS, and a Med synthesis on water scarcity and drought based on data collected.

The following figure presents the links between the planned activities:



<b>Activity 1</b>	<b>Project management and coordination</b>
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**Description**

**Task 1.1 Annual Steering Committee meetings**

Two meetings will be organised bringing together EMWIS Steering Committee members (i.e. water directors from Morocco, Lebanon, Algeria, Egypt, Turkey, Israel, Palestine, Jordan, Cyprus, Malta, Italy, France and Spain), plus representatives of the EEA (WISE team) and Eurostat (team in charge of Medstat Environment).

**Task 1.2 Quarterly meeting with WISE Technical Group**

Regular meetings with the WISE technical group will allow a better coordination of the technical activities, especially with the EEA and the JRC.

**Task 1.3 Reporting**

6 monthly progress reports will be delivered to the European Commission

**Deliverables**

D1.1.1 – D1.1.2: minutes of Steering Committee meetings

D1.2.1 / D1.2.5: minutes of meetings with WISE Technical Group

D1.3.1/D1.3.2: Progress reports

D1.3.3: final report

**Activity 2:                    Setting up a Metadata catalogue**

**Description**

**Task 2.1 Review of existing tools**

Today WISE does not include metadata, but the WISE Technical Group is starting to explore the setting up of a metadata catalogue which is necessary for discovery services (i.e. searching for existing information/data sources) within the distributed architecture promoted by INSPIRE. For the Mediterranean Water Observation Mechanism study; Geonetwork (open-source tool developed by UN-FAO) has been successfully evaluated. An analysis of existing tools will be carried out in order to find-out the most suitable solution.

**Task 2.2 Definition of reference labelling**

The setting up of a metadata catalogue requires the definition of a number of references to label the metadata such as categories, a closed list of keywords, geographical glossary, metadata profiles (including format ISO, Dublin Core, etc. and mandatory fields). As usually metadata are collected in local language, it will be necessary to defined multilingual management rules at least for the reference labelling in order to allow cross-lingual search.

**Task 2.3 Expert workshop on metadata management**

A workshop will be organised to define common procedures and common rules on metadata management (tools, categories, keywords, geographical glossary, metadata profiles). This workshop will involve WISE TG members, international experts and national experts from water authorities.

**Task 2.4 Implementing the online catalogue**

A tool will be selected, adapted and implemented using the agreed procedures in order to be available on the web. A guidance document will be prepared to allow user to add metadata easily.

**Task 2.5 Metadata collection**

The declaration of metadata will be opened to any organisation managing data within the Mediterranean countries or at the regional level. The promotion will be done through the EMWIS e-flash mailing list (10000 subscribers) in order to get voluntary contributions on various topics.

**Deliverables**

D2.1 – Report on existing tools and the definition of references

D2.2 – Online metadata catalogue

### **Activity 3 Preparing recommendations for compatibility of Med WIS and WISE**

#### **Description**

##### **Task 3.1 Review and adaptation of existing EU guidance documents**

The main existing documents adopted by the EU will be reviewed in order to highlight interoperability principles in terms of reference datasets, data structure and services. The main sets of documents to be considered are:

- WFD guidance documents,
- WISE technical rules,
- INSPIRE directive and related guidance documents

These principles will be compared to the ones used in the MPC on the basis of EMWIS studies on NWIS and the Med water observatory mechanism. For data sets, priority will be given to issues of interest for MPC. Thus the EU interoperability principles will be ordered according to the MPC priorities.

On this basis, and taking into account the current status of development in the MPC, technical interoperability principles will be proposed.

##### **Task 3.2 Adoption of common geographical references and structures**

Geographical reference rules necessary to localise the datasets will be defined taking into account the management units used by MPC (administrative or hydrological). In order to get a first set of operational geographical references a mix approach will be considered based on both administrative and river basins or aquifers.

##### **Task 3.3 Drafting technical guidelines**

These guidelines will propose a two-levels approach to reflect the current status of WISE development. Indeed, the technical specifications of the foreseen distributed architecture of WISE are not yet defined. The first level of guidance will include detailed technical principles already used in WISE while the second level will provide more general principles about the evolution of the technical architecture towards a shared information system.

It will also identify the potential tools that could be of interest for the Mediterranean information mechanism development.

#### **Deliverables**

D3.1 – Comparison between WISE and emerging Med WIS

D3.2 – Definition of geographical references for MPC

D3.3 – Technical guidelines for interoperability

## Activity 4 Preparing an information product based on data collected

### Description

#### Task 4.1 Identification and definition of indicators and related basic data items

In collaboration with the EU and Med working groups on water scarcity and drought, some indicators will be identified. The basic aggregated data items requested for the production of these indicators will be jointly defined (e.g. “total water withdrawal per basin”).

#### Task 4.2 - Developing the interoperability framework

In order to facilitate the processing of the available data for the production of these basic aggregated data items, it will be necessary to define common data models, common identification rules and common referential datasets).

#### Task 4.3 Metadata collection and definition of data sharing rules

In order to foster the metadata provision describing available data needed to produce the selected basic aggregated data, national seminar will be organised in 6 countries in coordination with MedStat NFP. During these seminars, data sharing rules will be proposed to the data providers.

#### Task 4.4 - Data collection

Data provider will be able to supply their data using various means: spread sheet, data base, XML files, reports, etc. Whenever possible, this process will be supported by the EMWIS and MedStat focal points.

#### Task 4.5 Analysis of data and production of common outputs

Common outputs (e.g. maps, indicators, briefing note) will be produced showing the result of the data collection and processing on European and Mediterranean countries. This task will be carried out with the support of the EU and Med working groups on water scarcity and drought.

#### Task 4.6 Implementation of tools for consulting the related data

Existing tools identified earlier (e.g. EEA web map viewer) will be adapted to produce online interactive maps and consultation of the indicators.

#### Task 4.7 Analysis of gaps for data provision and recommendations for improvements

A report will be prepared highlighting the existing gaps in data items necessary to produce the identified aggregated indicators. This report will include some recommendations to improve the provision of the necessary data items. This task will be carried out with the Med working group on water monitoring.

### Deliverables

D4.1 – Report on Indicators selected, methodological note and interoperability framework

D4.2.1/8 – National seminars

D4.3 – Online consultation tools

D4.4 – Report on gaps for data provision and recommendation for improvements

**Activity 5: Coordination with the Med JP**

**Description**

**Task 5.1: Support to water monitoring working group**

An analysis of existing water monitoring networks in MPC will be carried out on the basis of a survey. A WG meeting will be organised to discuss the first results of this survey and review the WFD monitoring guidelines. On this basis complementary information will be collected and a joint report prepared by the WG members. That report will include recommendations to improve monitoring networks in MPC in order to provide the aggregated data items necessary to produce the indicators identified in activity 4.

**Task 5.2: Support to water scarcity and drought working group**

A working group meeting will be organised back to back to an EU WS-D working group meeting in order to select the indicators and the related basic aggregated data items. This result of this task will serve as input for activity 4. The data collected, indicators and map produced will be provided to working group members to produce a regional synthesis.

**Deliverables**

D5.1 – Report on water monitoring in the Mediterranean Partner Countries

D5.2 – Regional synthesis on water scarcity and drought based on data collected

## **Activity 6: Adding a Mediterranean entry point to WISE**

### **Description**

#### **Task 6.1 Updating of WISE design and design rules**

WISE being the main entry point for all water issues in Europe, the integration of an entry point for EU neighbourhood countries would make sense. If this concept is approved by the WISE Technical Group, WISE design and design rules will be reviewed in order to take into account this new dimension (e.g. navigation structure and entry pages lay-out and content). If this concept is not adopted, the activity will focus on the EEA sub-section of WISE (i.e. themes and data) in order to include a Mediterranean entry point.

#### **Task 6.2 Reviewing the Mediterranean structure of the portal**

EMWIS design and architecture will be adapted in order to comply with WISE design rules. At this stage, a site map will be defined as well as what type of services will be provided (e.g. web mapping, data access, access to EU med data already available in WISE, and editorial pages) and where these services will be hosted (EEA vs EMWIS servers).

#### **Task 6.3 Implementing new design rules, the Med structure and tools**

The new design rules will be implemented on WISE (home and umbrella pages or EEA sub-page) and a subsection on EU neighbourhood countries will be developed. The shared architecture between EMWIS and EEA defined in 6.2 will be developed and implemented on respective servers.

#### **Task 6.4 Content development and data collection**

All the navigation and basic information will be made available in 3 languages: Arabic, English and French. As far as possible, content will also be developed in these 3 languages. In addition to the existing EMWIS sections that will be adapted when necessary, an analysis of legal or moral reporting “obligations” in the field of water will be undertaken and added to the website.

### **Deliverables**

D6.1 – Mediterranean section of WISE

## **Activity 7: Awareness raising and dissemination**

### **Description**

#### **Task 7.1 - Editing a project leaflet**

A leaflet presenting the project and its challenges will be prepared in the early stage of the project. It will include a description of the added value for MPC to provide water data (e.g. simplification of international reporting, ensuring coherency between national and international indicators, sharing experience, improving data quality, ...).

#### **Task 7.2 – Printing and mailing the regional synthesis on water scarcity and drought**

The regional synthesis will be widely disseminated in the MPC in order to show the added value of data provision at the Mediterranean scale.

#### **Task 7.3 – Printing and mailing the NWIS guidance document**

The guidance document for setting up National water information systems compatible with WISE will be disseminated to the water directors, the main water authorities, the EC delegations and the 3 main international donor agencies involved in the water sector in each country. The objective is to stimulate the development of NWIS based on the recommendations produced and to foster the sharing of data at the Mediterranean level.

### **Deliverables**

D7.1. Project leaflet

Overview of human resources planned to carry out the activities described.

Description	Human resources planned in person-days (including sub-contractors)								
	Project Manager	Content manager	Administrative officer	Water quantity expert	WIS expert	IT/web developer	MPC WIS experts	MPC Water quantity experts	Total person-days
<b>Activity 1: Project management and coordination</b>	40	0	19	0	0	0	0	0	59
<b>Activity 2: Setting up a Metadata catalogue</b>	9	21	2	0	20	5	0	0	57
<b>Activity 3: Preparing recommendations for compatibility of Med WIS and WISE</b>	30	0	0	0	42	0	40	0	112
<b>Activity 4: Preparing an information product based on data collected</b>	48	40	0	12	60	15	0	20	195
<b>Activity 5: Coordination with the Med JP</b>	17	15	0	13	0	0	0	20	65
<b>Activity 6: Adding a Mediterranean entry point to WISE</b>	28	45	0	0	0	30	0	0	103
<b>Activity 7: Awareness raising and dissemination</b>	9	9	20	0	0	0	0	0	38
Total person-days	181	130	41	25	122	50	40	40	629

## 1.9. Methodology

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The project methodology is based on:

- lessons learnt from EMWIS activities on Water Information Systems development in Med Partner Countries: feasibility studies of NWIS carried out at the end of 2005 in 10 Mediterranean countries (Morocco, Algeria, Tunisia, Lebanon, Jordan, Israel, Palestine, Turkey, Malta and Cyprus) and the feasibility study on a Med water observatory mechanism in 2006-2007
- a strong partnership established with the EEA around the transfer of know-how and technologies linked to WISE and more widely for the development of Shared Environment Information System –SEIS-. Such partnership as already started with EMWIS implementation and further enhancement (e.g. Arabic interface) of a web portal technology developed and used by the EEA.
- Involvement of MPC experts in the working groups of the Joint Process who are providing knowledge, case studies, analysis and in some cases data. During the project, they will contribute with analysis of the data collected and assess of the project's outputs.

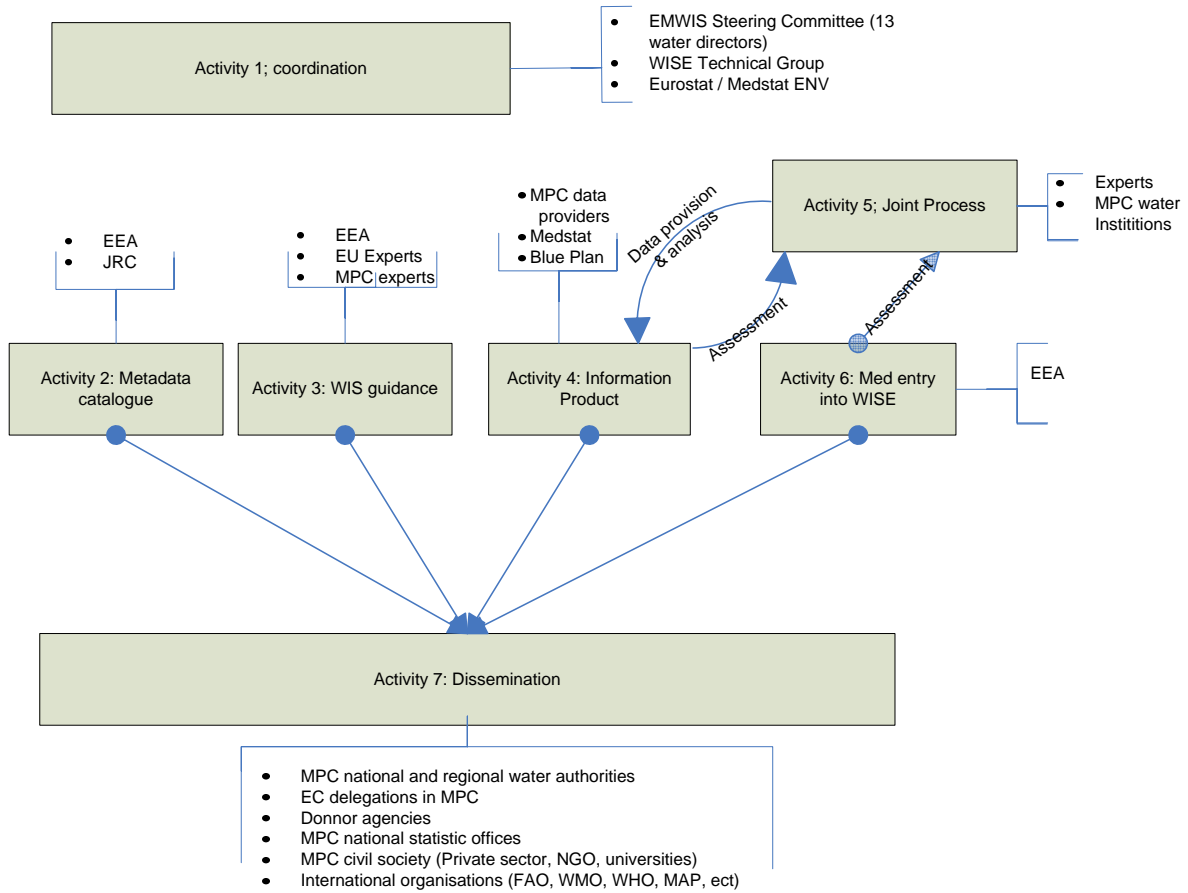
In the framework of the study on the Med Water Observatory Mechanism, synergies have been initiated with existing process collecting regularly water data in Med countries (FAO-Aquastat, UNEP-MAP MedPol, UNEP-MAP Blue Plan for the MSSD, MedStat-Environment, H2020 monitoring, Water Monitoring Alliance of the World Water Council, etc.). For the current project, stronger synergy will be developed with Eurostat team in charge of Medstat-Env and with the Bleu Plan team in charge of water related indicators of the MSSD, indeed the water data items that will be standardised and collected through the project are of interest for both processes. Therefore they will be associated in the tasks related to the standardisation tasks (definitions, format, etc.).

All the applications to be developed during the project (databases, web mapping tools, metadata catalogue, etc.) will be based on existing open source solutions. They will be implemented on existing servers within EMWIS or the EEA.

By exploring the management of metadata, the current project will contribute to the future WISE developments: towards a decentralised data management using web services, based on the INSPIRE principles.

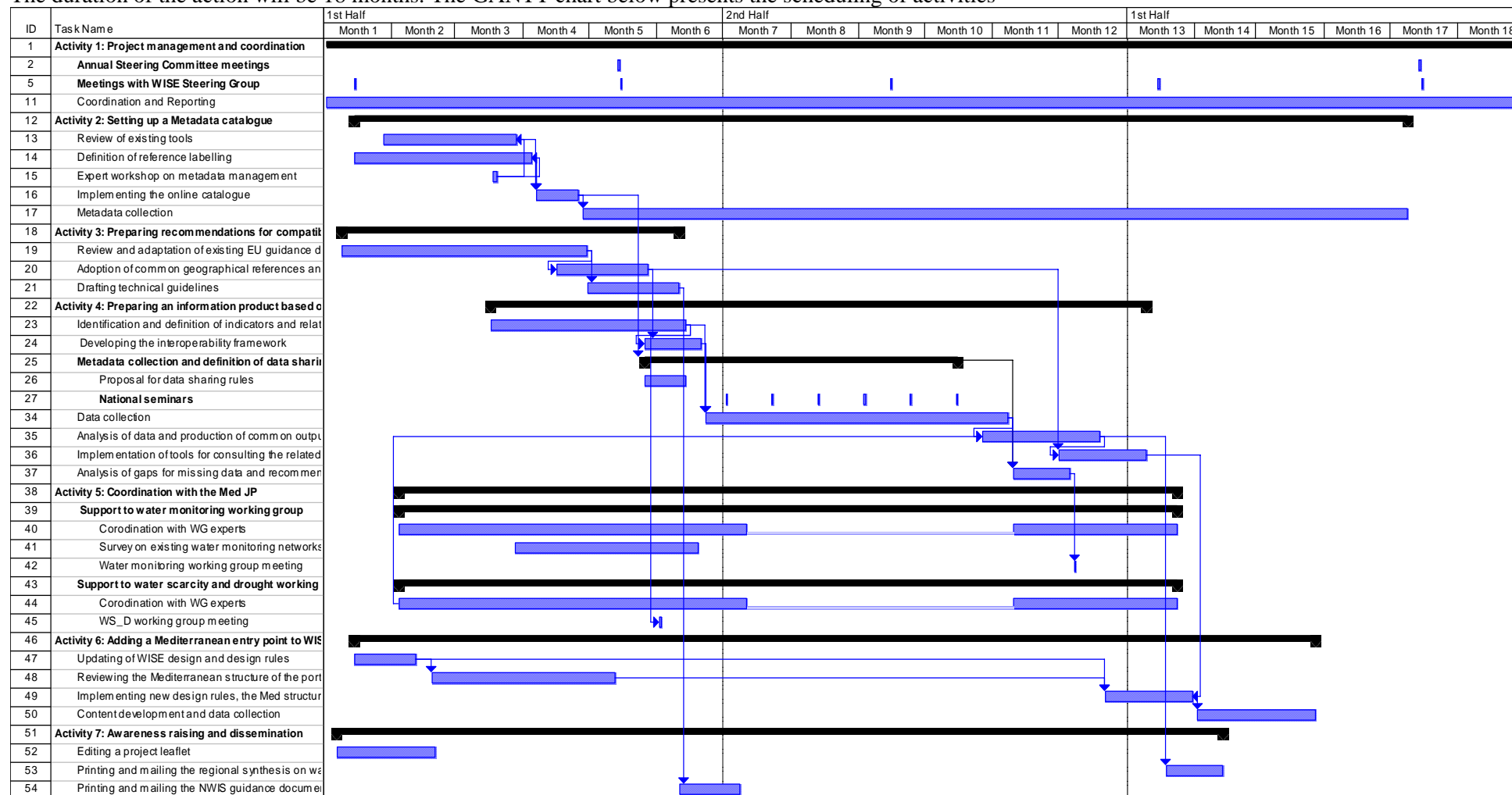
At the Mediterranean level, the data infrastructure set-up will also be available to manage other types of data, e.g. data on water quality that would be useful for H2020 monitoring, for example. Of course this will also require a standardisation process with all the stakeholders.

The following figures show the involvement of the stakeholders in the different activities planned.



### 1.10. Duration and indicative action plan for implementing the action

The duration of the action will be 18 months. The GANTT chart below presents the scheduling of activities



## 1.11. Sustainability

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The potential risks related to the implementation of the planned activities are affecting:

- Activity 6 - adding a Mediterranean entry point to WISE. Indeed, the proposal has been welcome by the EEA. But the EEA will make officially this proposal at the next WISE Technical Group meeting at the end of November 2007. If it is preferred to keep WISE purely within the geographical limit of the EU, the content and applications foreseen will be developed on a separate web portal dedicated to the Med area and managed jointly by the EEA and EMWIS.
- Activities 4 (Information product) and 5 (data collection with JP working groups) will require an active participation of Med countries who have always been reluctant to provide data on water quantity and quality. Nevertheless since the launch of EMWIS actions on water information systems, at the end of 2005, the dialog on this issue is more opened in some countries. In addition the voluntary involvement of countries in the Joint Process working groups is showing their interest to share some data. Finally contacts established with various data providers in each country will allow to collect minimum sets of data to produce an information product that will be used to motivate all the data providers to share their own data
- The reluctance to provide data is also true for activity 2 (metadata catalogue), but it will be based on an open declarative procedure, so non governmental bodies will be able to provide metadata and thus promoting the results of their work. In addition, metadata has already been collected by EMWIS for its thematic directory and during the feasibility study on a Med Water observatory Mechanism. So, if not collected directly from the data producer, it will be possible to transfer these metadata available to the new format (to be defined in Activity 2) using the tool to be selected.

For activities 1 (management), 3 (guidance on water information system) and 7 (dissemination), the risk is very limited as they are based on existing and well known practices a string partnership with the EEA.

The Middle-East conflict is always a major risk for regional cooperation project in this area although water is often used to maintain a technical dialog between Israel and Palestine. In the case of the current project, although all the necessary efforts will be made to ensure an active participation of all the countries, the defect of some of them will not put the overall process at risk.

In terms of sustainability, the process started with the feasibility studies on NWIS has shown a real ownership of water authorities in Med Partner Countries and the willingness to build such systems. The project will help national water authorities to build NWIS thanks to technical guidance documents to raise awareness on added value of such systems with an example of information product useful at the Mediterranean level as well as at the National level (with information from river basins or regional authorities). It is anticipated that developing these systems will require external financial support that could be provided in the framework of National action plans of the ENPI (as it has started in Algeria) or through other channels (e.g. the African Water Facility managed by the African Development Bank that has express a great interest in financing such systems in North Africa).

The overall Med system being more integrated with WISE will benefit from framework being developed at the EU level (institutional and financial).

## **1.12. Logical framework**

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The logical framework of this project is provided in Annex C<sup>3</sup>

## **2. BUDGET FOR THE ACTION**

The budget is provided in Annex B.

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<sup>3</sup> Explanations can be found at the following address  
[http://ec.europa.eu/europeaid/reports/index\\_en.htm](http://ec.europa.eu/europeaid/reports/index_en.htm)

Under: Aid Delivery Methods (Manuals and Guidelines): => PCM - Project Approach Guidelines

## 1. LIST OF THE MANAGEMENT BOARD/COMMITTEE OF YOUR ORGANISATION

Name	Profession	Function	Country of Nationality	On the board since
<b>Mr. Pascal BERTEAUD</b>	Water Director	<i>President of Steering Committee</i>	<b>FRANCE</b>	November 2005
<b>Mr. Hassan HACHEM</b>	Directeur Général Direction Générale de l'Exploitation - Ministère de l'Energie et de l'Eau	<i>Vice President of Steering Committy</i>	<b>LIBAN</b>	November 2005
<b>Mr. Fadi COMAIR</b>	Directeur Général Direction Générale des Ressources Hydrauliques et Electriques- Ministère de l'Energie et de l'Eau	<i>Vice President of Steering Committy</i>	<b>LIBAN</b>	November 2005
<b>Mr Abdelaziz ZEROUALI</b>	Director Agence de l'Eau Oum Er Bia à Beni Mellal	<i>Vice President of Steering Committy</i>	<b>MOROCCO</b>	November 2005
<b>Mr. Walter MAZZITTI</b>		<i>General Secretary</i>	<b>ITALIA</b>	November 1999
<b>Mr. Tahar AICHAOUI</b>	Water Director (Directeur Général Direction des Etudes et des Aménagements Hydrauliques - Ministère des Ressources en Eau)	<i>Member Steering Committee And President Coordination Committee of EMWIS NFP</i>	<b>ALGERIA</b>	November 2005
<b>Mr. Fadel KAWASH</b>	Water Director (Head of PWA Palestinian Water Authority - Ramallah Office)	<i>Member Steering Committee</i>	<b>PALESTINIAN TERRITORIES</b>	November 1999
<b>H.E. Dr. Mahmoud ABOU ZEID</b>	Minister of Water Resources Ministry of Water Resources and Irrigation	<i>Member Steering Committee</i>	<b>EGYPT</b>	November 2005
<b>PROF. Uri SHANI</b>	Water Director	<i>Member Steering</i>	<b>ISRAEL</b>	November 2005

Name	Profession	Function	Country of Nationality	On the board since
	(Water Authority - Ministry of National Infrastructures)	<i>Committee</i>		
<b>ENG KHASHMAN Khaldun</b>	Water Director (Secretary General – Ministry of Water and Irrigation)	<i>Member Steering Committee</i>	<b>JORDAN</b>	November 2005
<b>Mr. Haydar KOCAKER</b>	General Director General Directorate of State Hydraulic Works	<i>Member Steering Committee</i>	<b>TURKEY</b>	November 2005
<b>Mr. Christodoulos ARTEMIS</b>	Water Director (Water Development Department - Ministry of Agriculture, Natural Resources and Environment)	<i>Member Steering Committee And Vice President Coordination Committee of EMWIS NFP</i>	<b>CYPRUS</b>	November 1999
<b>Mr. Jaime PALOP PIQUERAS</b>	Director General de Obras Hidraulicas y calidad aguas Ministerio de Medio Ambiente	<i>Member Steering Committee</i>	<b>SPAIN</b>	November 2005
<b>Mr. Gianfranco MASCAZZINI</b>	Direttore Direzione per la Qualita della Vita Ministero dell' Ambiente e della Tutela del Territorio	<i>Member Steering Committee</i>	<b>ITALY</b>	November 2005
<b>Mr. John MANGION</b>	Director for Water Resources Malta Resources Authorities	<i>Member Steering Committee</i>	<b>MALTA</b>	November 1999
<b>Mr. Fausto MELLI</b>	Technical director -SOGESID SpA	<i>Member Steering Committee And Technical Unit member</i>	<b>ITALY</b>	November 2005
<b>Mr. Antonio SANCHEZ TRUJILLANO</b>	Director CETA del CEDEX Centro de Estudios de Tecnicas Aplicadas - Centro de Estudios y Experimentación de Obras Publicas	<i>Member Steering Committee And Technical Unit member</i>	<b>SPAIN</b>	November 2005
<b>Mr. Jean Louis</b>	Director of	<i>Member Steering</i>	<b>FRANCE</b>	November 2005

TOWARDS A MEDITERRANEAN WATER INFORMATION MECHANISM COMPATIBLE WITH THE WATER INFORMATION SYSTEM FOR EUROPE (WISE)

Name	Profession	Function	Country of Nationality	On the board since
<b>MILLO</b>	International Cooperation – International Office for Water	<i>Committee And Technical Unit member</i>		

### III. ANNEXES

#### 1. GLOSSARY OF ACRONYMS

<b>Acronym</b>	<b>Name</b>
AWF/FAE	African Water Facility
EC	European Commission
EC - DG Env	European Commission - DG Environment
EEA	European Environment Agency
ESCWA	Economic Commission for Western Asia
Eurostat	Statistical Office of the European Commission
EUWI	European Union Water Initiative
FAO	Food and Agriculture Organization of the United Nations
GWP - Med	Global Water Partnership-Mediterranean
Horizon 2020	EC 'Horizon 2020' initiative
INFO-RAC	INFO - Regional activity center of the MAP
JMP	Joint Monitoring Programme
JP	Joint Process between the EUWI and WFD
MAP	UNEP Mediterranean Action Plan
MED-EUWI	Mediterranean Component of the European Union Water Initiative
MEDPOL	Mediterranean Pollution Monitoring Programme
MEDSTAT	Euro-Mediterranean Statistical Co-operation Programme
MEDWIP	Mediterranean Water Information Partnership
MSSD/SMDD	Mediterranean Strategy for Sustainable Development
OECD/OCDE	Organisation for Economic Cooperation and Development
WMO	World Meteorological Organisation
OSS	Sahel and sahara observatory
Plan Bleu/Blue Plan	Blue Plan- Regional activity center of the MAP
SEIS	Shared Environment Information System
SEMIDE/EMWIS	The Euro-Mediterranean Information System on the know-how in the Water Sector
UNEP	United Nations Environment Programme
WB	The World Bank
WFD	EU Water Framework Directive
WHO	World Health Organization of the United Nations
WISE	Water Information System for Europe
WS-D	Water scarcity and drought
WWAP	World Water Assessment Programme
WWC	World Water Council

## **2. COOPERATION WITH THE EUROPEAN ENVIRONMENT AGENCY**

### **DRAFT JOINT ACTION PLAN EEA-EMWIS**

2007-10-16 – Copenhagen

Objectives:

Interfacing WISE and the “Mediterranean Water observatory mechanism/ information system”

Stimulating the production and sharing of data by Med Partner Countries

### **ADDING A MEDITERRANEAN ENTRY POINT TO WISE**

#### **ANALYSING THE POTENTIAL ARCHITECTURE, DESIGN RULES AND CONTENT OUTLINE**

The entry point could be EU neighbourhood countries under the common WISE umbrella page (Policy, Theme&Data, Research, Links), with the Mediterranean as a starting point. The WISE design and design rules will need to be adapted to take into account this new dimension.

#### **AGREEMENT BY WISE STEERING GROUP**

Once the entry point will have been validated by the WISE Steering Group (EC DG ENV, EEA, JRC and Eurostat) –next meeting 22 November 2007-, the design of WISE sub-webs will have to be adapted (e.g. navigation).

#### **CONTENT OF THE MEDITERRANEAN SECTION**

A feasibility of providing the following services will be analysed:

- Metadata catalogue of water information sources
- Access to existing data from EU med countries and at river district level using thematic maps (e.g. with a light web map viewer) for a subset of themes interesting Med countries e.g. Urban waste water treatment, Use of freshwater resources
- New editorial sections
  - Analysing “obligations”/recommendations for Med countries in the field of water reporting
  - Thematic analysis
  - Web mapping listing to announce organisations offering map services
- Common tool kit for developing interoperable National Water Information Systems – NWIS- (or only for some services) supporting a distributed architecture necessary to realise the EU SEIS principles (Shared Environmental Information System)
- Access to EMWIS

#### **IMPLEMENTATION**

Some services will be hosted on EEA server (e.g. web map viewer) others on EMWIS server (e.g. metadata catalogue). The Arabic language will be added at the level of the Mediterranean access.

## **METADATA CATALOGUE**

- Review of existing tools and selection of one
- Rules for metadata
  - Using different languages
  - Agreement on a list of keywords (small glossary, e.g. abstract of Gemet)
  - Selection of a metadata profile (ISO, Inspire)
  - Definition of a geographical glossary
  - Versions management
  - etc.
- Definition of themes for the metadata collection
- Meta data collection

## **TOOL KIT FOR INTEROPERABLE NWIS IN MED PARTNER COUNTRIES**

Although all the specifications for building shared water information systems have not been yet fully defined by WISE, the existing rules, guidance documents and tools will be put together as they become available to help non EU countries to build their systems. The main building blocks are:

- Inspire directive and related tools
- GIS guidance document
- A set of definitions and data structures, e.g.:
  - competent authorities
  - (hydrological and administrative) Geographical reference data set (including monitoring stations/networks)

As part of the definition of this tool-kit, it will be important to propose incentives for Med countries to adopt these building blocks (e.g. funding NWIS if some part is opened for joint med activities).

## **PREPARATION OF MEDITERRANEAN INFORMATION PRODUCTS (OUTPUTS)**

The development of outputs (indicators, thematic maps, reports) will bring an added value at the regional level by exploiting the information collected. Various issues of interest have been identified: urban waste water treatment (e.g. for H2020 monitoring), waste water reuse (Med EUWI Joint Process). But for the period 2008-2009, it was decided to focus on “water scarcity and drought” ((Med EUWI Joint Process)

- Identification/definition of indicators and related basic data items based on the work of the EU WS-D working group of the WFD (next meeting 15 November)
- Selection of a subset of indicators that can be collected by Med Partner Countries
- Definition of a realistic level of aggregation: basin or aquifer level, administrative sub level (when relevant), by month (or any other relevant period) and by sectors
- Collection of metadata (see above)
- Interoperability rules (common identification framework)
  - Preparation of common definitions (e.g. withdrawal)
  - Reference datasets
  - Identification rules
- Definition and set-up of services (Inspire concepts):
  - Searching (discovery)
  - Consultation

- Downloading
- Data transformation
- Invoking services
- Rules for sharing data
- Data collection
- Gap analysis for missing data with recommendations for further steps (provision of data)
- Analysis and production of an output (e.g. report, map, indicators)

## **RESOURCES FOR IMPLEMENTING THIS JOINT WORK PLAN**

The implementation of some activities of this plan will require additional resources (e.g. through DG ENV contract).