



Union pour la Méditerranée
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INSTITUT MÉDITERRANÉEN
DE L'EAU IME



SEMIDE
EMWIS

Mediterranean Water Knowledge Platform

Water information system, case of Lebanon

Presented by

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19-20 October 2017, Barcelona, Spain



Value of Water Information

For water policy planning and assessment

Knowledge of the resource, its status and evolution

Aggregated **indicators** with socio-economic data

Integrated water resources management and risk prevention with all stakeholders

Operational **monitoring**

Essential for public information, awareness raising and participatory approaches

(local) status, simulation

Simultaneous combination of various levels of action: local, basin, regional, national, international, etc.

Water data in Lebanon

Meteorological, hydrological, and water data are collected by numerous agencies:

- **Meteorological data:**

Civil aviation (available at a fee), LARI (free of charge)

- **Hydrological data:**

LRA (namely surface water), and

- **Water data:**

Water supply systems and water use (Water authorities/MEW)

- **Water quality data:**

Limited to potable water, available through WE

- **Hydrological spatial data:**

Collected through collaborative projects at MEW

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Collected through collaborative projects at MEW

Data-related water challenges in Lebanon

Limited access to meteorological, hydrological, and water data:

- Not available in real time (e.g. LRA)
- Limited representativeness of the meteorological and hydrological network
- Requires MoU between different agencies
- Are available at cost (e.g. meteo data)

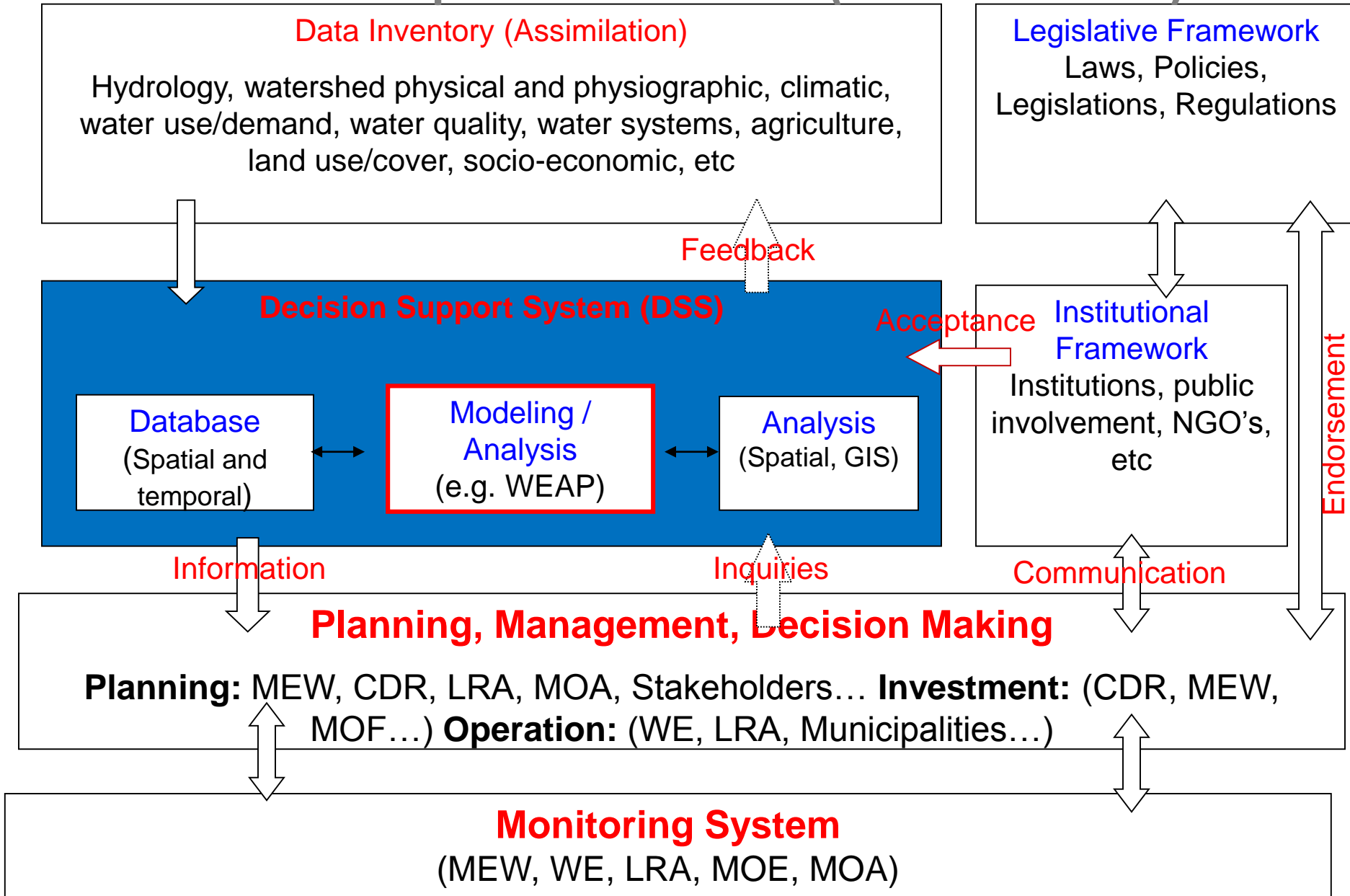
Fragmented cooperation between agencies collecting water data:

- e.g. MEW, LARI, LRA,

Lack of data on:

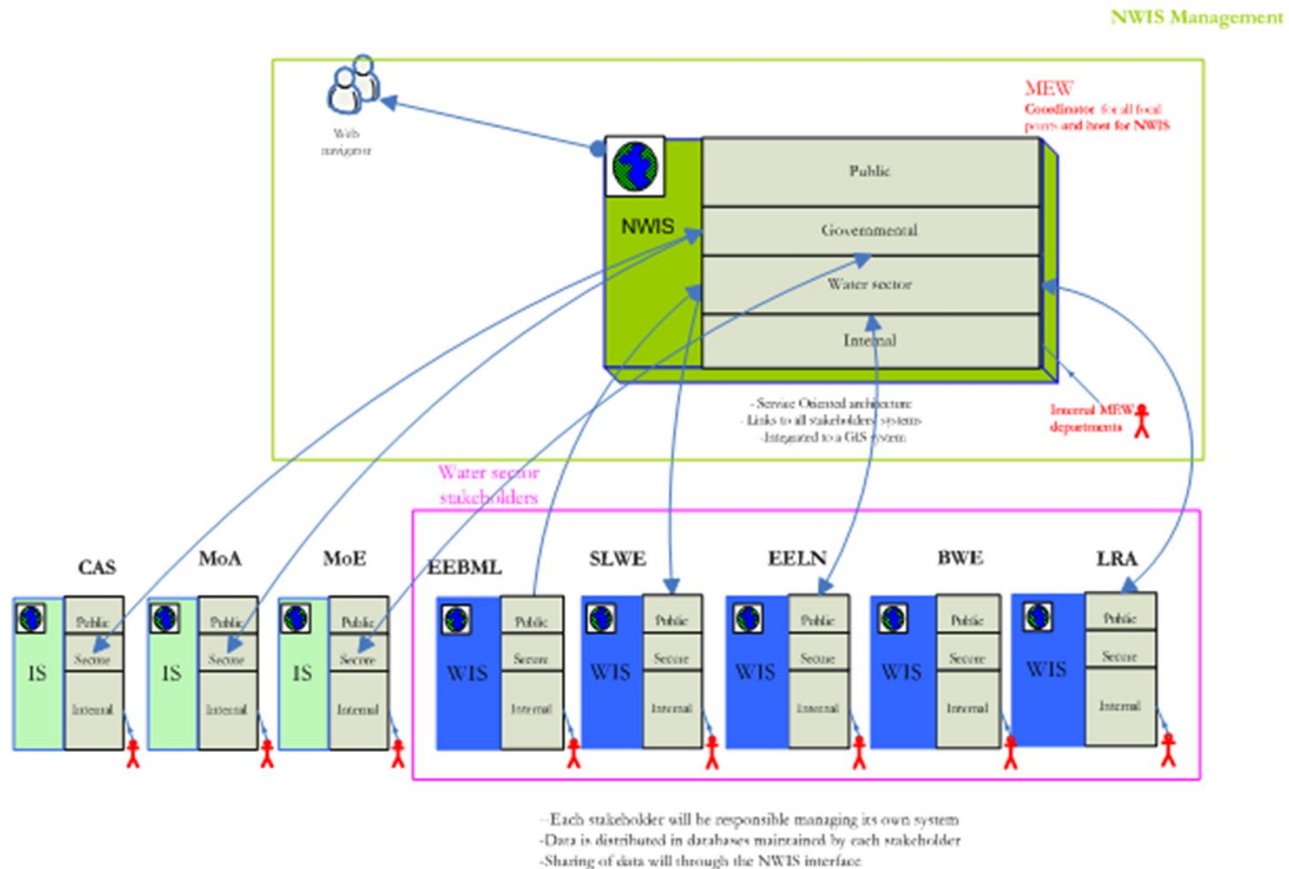
- Quantity and quality of surface and ground water resources (Lack of temporal series)
- Limited level of water quantity and quality monitoring networks

IWRM Conceptual Framework (MEW Lebanon)



Overview of NWIS and sub-systems overall architecture with the main stakeholders

Envisioned NWIS in Lebanon



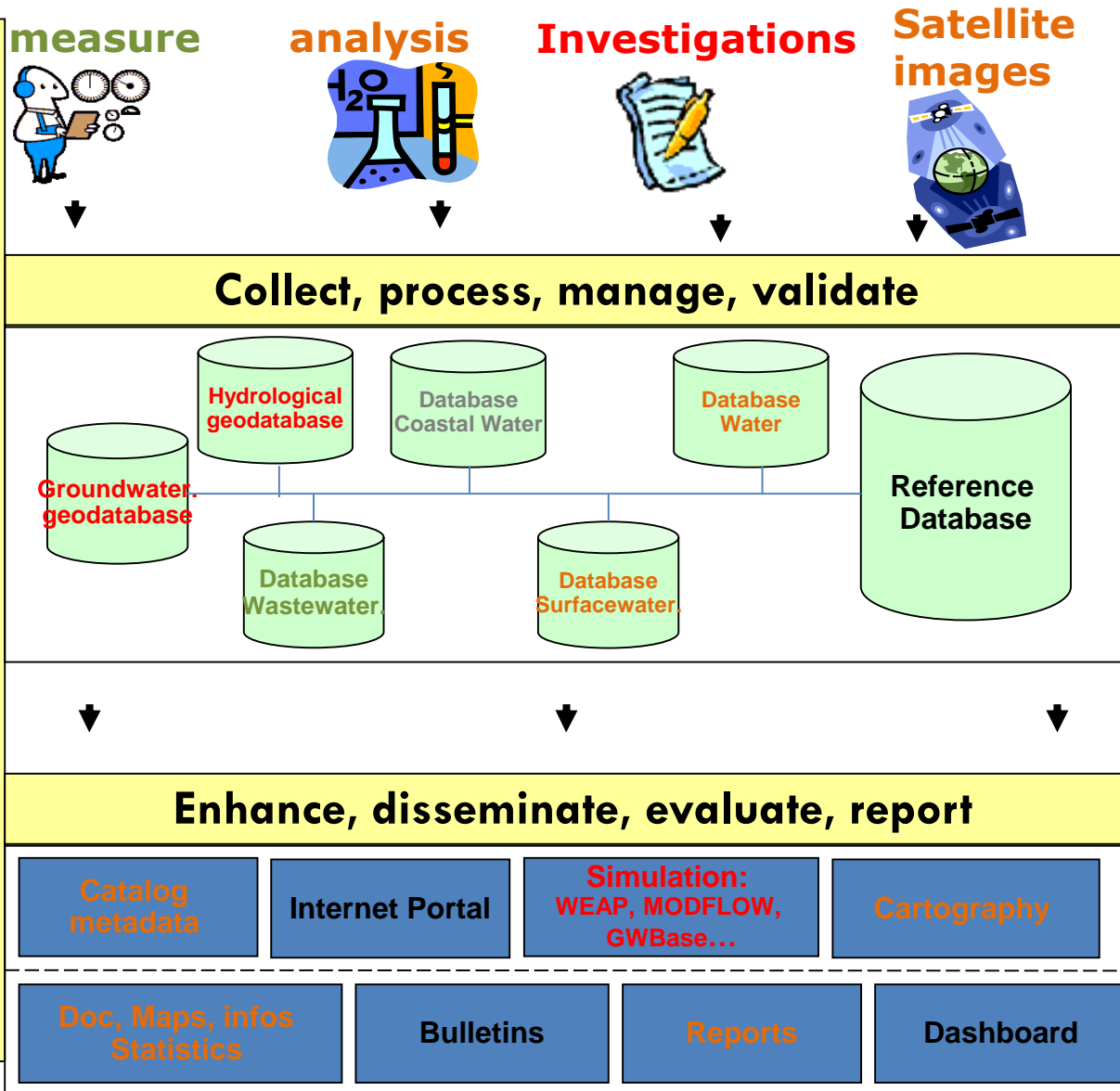
- **Feasibility study for National Information System is being carried by EMWIS, funded by FAO**

Information Components – MEW database

- MEW
- MEW, Partially
- 3rd parties
- Not available

Develop and implement an organization

Define the needs



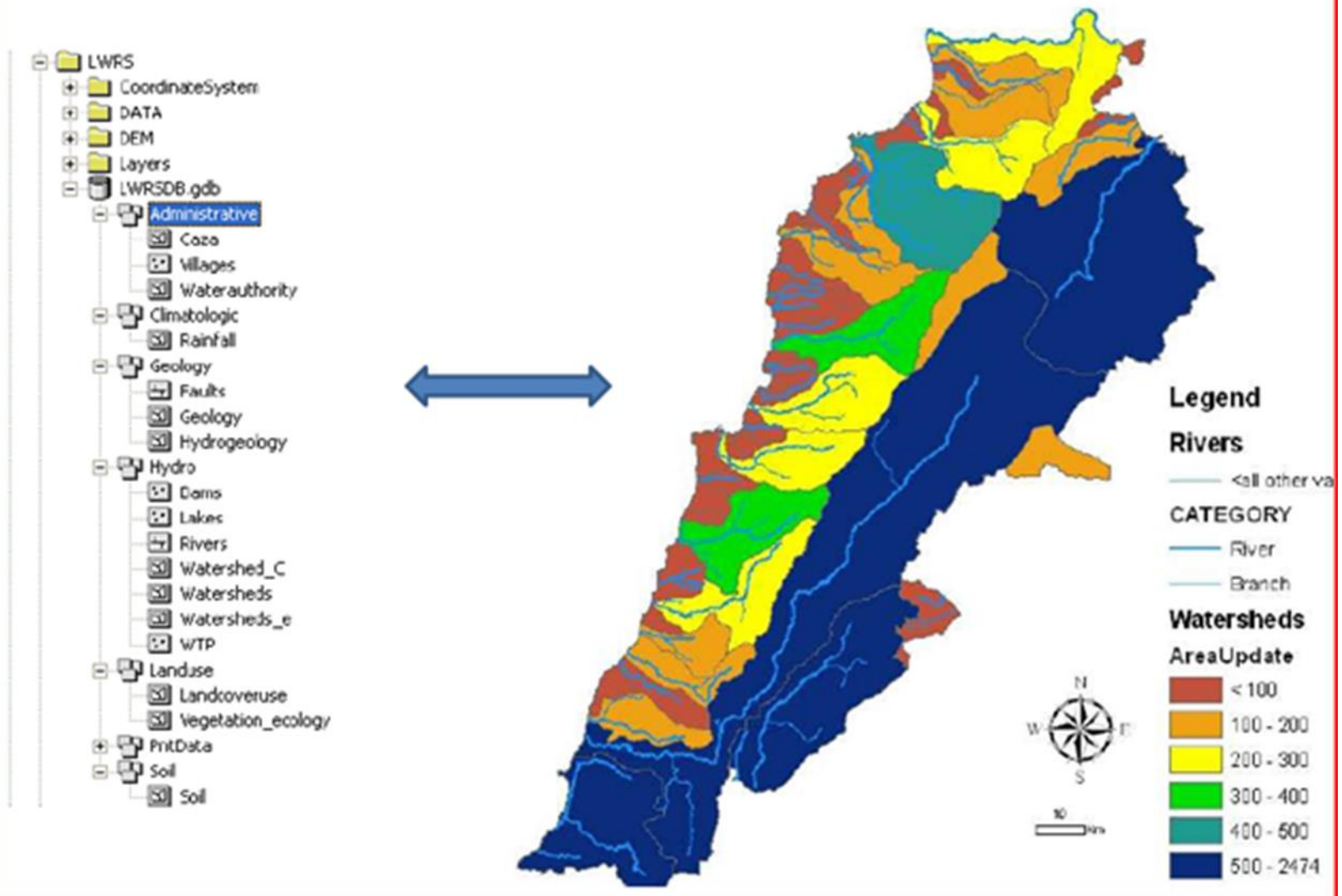
Application of the International Standards

Key water projects at MEW: Progress & achievements

- IWRM concepts: **Creation of a framework for broad stakeholder participation**
- **Revision of water Legislation** (2000) and its amendment (2001)
- **National 10-year Strategy Plan for** the Water Sector, updated in (2008)
- **National Water Sector Strategy (NWSS)** (approved March 2012)
- **Water Code**: cooperation programme between Lebanon and France. **The Water Code has been submitted to the Council of Ministers for approval.**
- **Projet de Centre d'Information et de Formation aux Métiers de l'Eau C.I.F.M.E au Liban**
 - This center has been **labeled by UfM on 7th of April**. Feasibility study has been recently implemented by OIEau and Funded by AfD”.
 - **NWIS framework was endorsed by the MEW as part of the Ded Sea declaration on the importance of national WIS.**
 - **Feasibility study for National Information system will be carried by EMWIS, funded by FAO – ongoing.**
- **SWIM H2020**: “IWRM at the river basin scale, with a focus on capacity building and implementation aspects” – ongoing for the El Kelb Basin
- **FAO's Water Accounting for Lebanon**. Implementing the Agenda 2030 for water efficiency / productivity and water sustainability in NENA countries

Example from the hydrological geodatabase at MEW

Geodatabase Representation



Example reference database



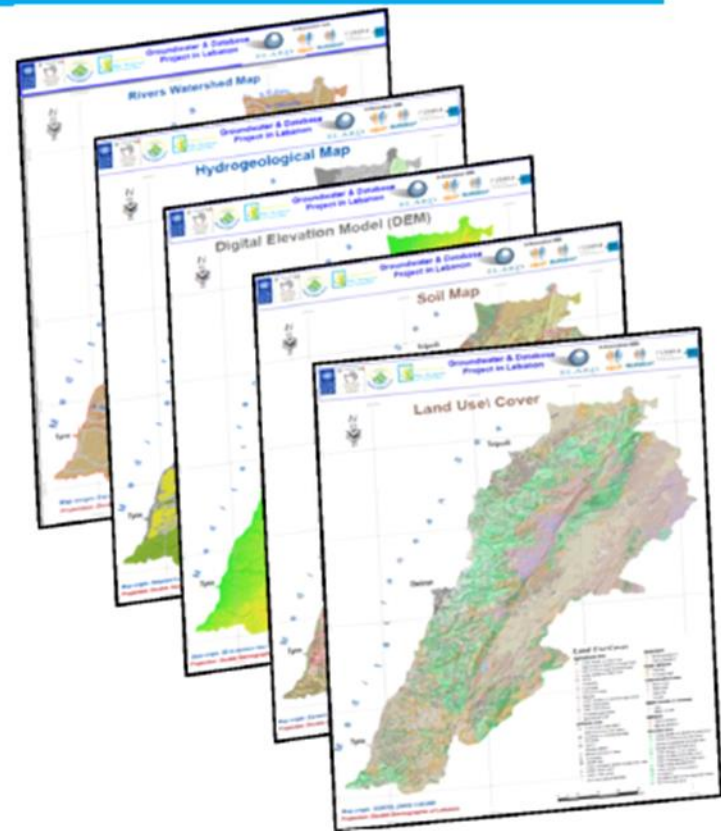
1f. Groundwater Assessment and Database Project

26-11-2013

Preliminary Baseline Data Assessment



- Collection and assessment of data related to:
 - Meteorology
 - Hydrology
 - Hydrogeology
- A set of maps were generated at a scale 1/50,000 including:
 - Meteorology
 - Hydrology
 - Topography
 - Land use/cover
 - Soil
 - Geology
 - Hydrogeology
 - Snow



Example data: 3 Weather Stations on Orontes Basin



Examples from water simulation models at MEW

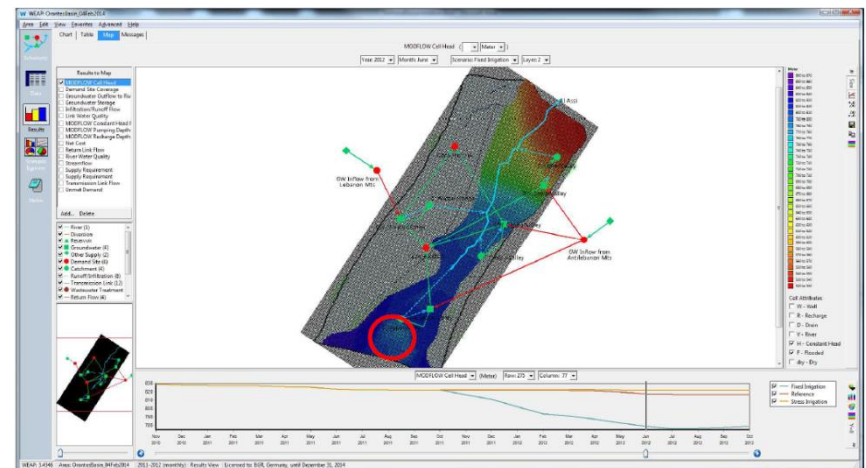
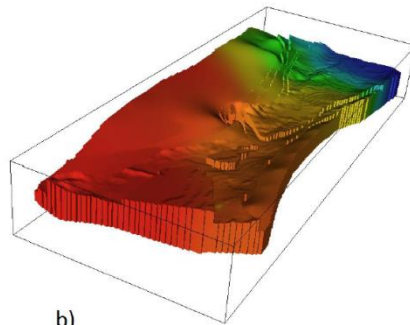
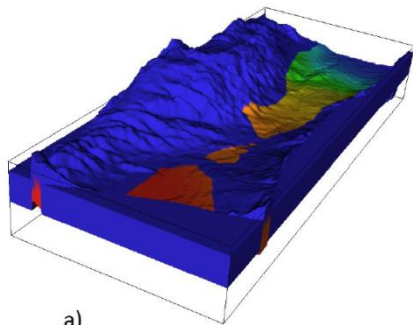
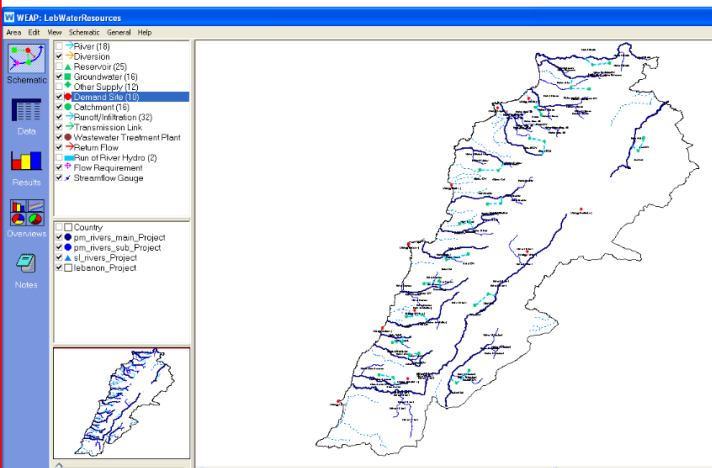
WEAP, MODFLOW, GWBase

GW-Base[®] 8.0

- Map display
- Basic station data
- Water level data
- Logger data
- Sample and analysis data
- Geological data
- Climate data
- Evaluations
- Reports



WEAP Model Interface



MEW Vision

For **strengthening the National Policies** and Strategies on Integrated Management of Water Resources

To **improve knowledge of Resources, their uses** and the status **Governance** and to Strengthen Administrative, Legal, Financial and Technical Capacity of the various organizations of the water sector.

In this context

MEW Initiated the creation of



**Projet de Centre d'Information
et de Formation aux Métiers de l'Eau C.I.F.M.E au Liban**

Projet de Centre d'Information et de Formation aux Métiers de l'Eau C.I.F.M.E au Liban

République Libanaise

MINISTÈRE DE L'ÉNERGIE ET DE L'EAU

DIRECTION GÉNÉRALE DES RESSOURCES HYDRAULIQUES ET ÉLECTRIQUES

VUE GÉNÉRALE DU PROJET



DAR AL HANDASAH NAZIH TALEB & PARTNERS SAL
دار الهندسة نزيه طالب وشركاه ش.م.ل

CENTRE D'INFORMATION ET DE FORMATION AUX
MÉTIERES DE L'EAU (C.I.F.M.E.)

Août 2017

Achievements of MEW for the Center Information Component:

This center has been labeled by UfM on 7th of April by a unanimous decision of 43 Member Countries of the Union, under project of title : “Towards a Mediterranean Knowledge Platform on Water”.

A preliminary study of a National Information system for Lebanon has been conducted by EMWIS, where Status report with proposed action plan was issued.

Budget: secured US\$ 2.7 from the MEW, and currently seeking support from international donors.



Achievements of MEW for the Center

Training Component:

Responding to the training needs of relevant staff members, both at management and governance level, and at technical level. of the **Water Sector at all levels of responsibilities.**

Targets:

Gouvernemental Institutions

Local Authorities

Private sector and Associations

Thematic coverage of all the water Professionals: management, operation and maintenance of drinking water, collection and treatment of sewage and irrigation.

Water awareness at all levels, level of farmers for best practices for preserving water resources





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www.semide.net/initiatives/MWKP

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Oral statements during the different roundtables

- o What would you expect as support from the Mediterranean Water knowledge Platform (i.e. international support)
 - Looking at information on data standardization and expertise (including training) from other Mediterranean regions
- o What are the future development plans or operational activities for existing systems
 - Finalizing the feasibility study for National Information system will be carried by EMWIS, funded by FAO.
 - Implementing the NWIS under the umbrella of the CIFME center
- o What are the budget required for these future developments or running costs
 - Will be estimated based on the feasibility study for National Information system will be carried by EMWIS, funded by FAO.
- o What are the main challenges
 - Availability of real-time meteorological and hydrological data from national agencies.
 - Completing the representativeness of observation network.
 - Implementing groundwater and water quality monitoring network.