Reinforcing Science policy Interface for better basin management and to face global changes

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IOWater General Director

Seville, 21th of January 2013

Hosted by the NOVIWAM Southern European Regions | Novel Integrated Water Management Systems

INBO and its REGIONAL NETWORKS

Created in 1994 to facilitate operational exchanges between BO

192 FULL MEMBERS or PERMANENT OBSERVERS in 71 COUNTRIES

INBO OBJECTIVES:

- to develop relations between organizations interested in comprehensive water resource management at the river basin level,
- to favor exchanges of experiences and expertise among them,
- to promote the principles and means of sound water management in cooperation programs,
- to facilitate the implementation of tools suitable for institutional and financial management, programming, organization of data banks, and for models adapted to the needs,
- to promote information and training programs for the different stakeholders involved in water management as well as for the executives and staff of the member basin organizations,
- to evaluate ongoing actions and disseminate their results.

INBO MEMBERS:

- "**Basin Organizations**", entrusted by relevant public administrations with integrated water resources management at the level of important river basins, either national, federal or transboundary, as well as the cooperation structures they have developed among them.
- **the governmental administrations in charge** or interested in applying integrated and sustainable water resources management:
  - **organized at the level of river basins,**
  - **associating administrations and local authorities, as well as users,**
  - **having specific budgetary resources at their disposal, obtained by applying the "user-polluter-pays" principle.**
- **bi and multilateral co-operation agencies** supporting activities related to integrated and sustainable water resources management at the level of river basins.

A PRÓXIMA ASSAMBELIA GERAL MUNDIAL RIOB TERÁ LUGAR EM FORTALEZA DO DOZE AO DEZESSEIS DE AGOSTO DE 2013, POR CONVITE DA ANA E DA REBOB:

CLARO,VOCÊS TODOS ESTÃO CONVIDADOS, PARA UM INTERCÂMBIO FRUTUOSO COM OS COLEGAS QUE VIRÃO DO MUNDO INTEIRO! .

- **SIGNIFICANT PROGRESS HAS ALREADY BEEN MADE SINCE THE 1990S:**

- river basin management experienced a quick development in many countries, which made it the basis of their national legislation on water or experimented it in national or transboundary pilot basins.

- With the experience acquired it is now widely recognized that water resources management should be organized accordingly with some clear principles.

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Indeed, basins are the natural territories,
in which water runs,
on the soil or in the sub-soil,
whatever are the national or administrative boundaries
or limits crossed.

An overall approach should be organized
on the relevant scale
of basin areas of rivers, lakes and aquifers,

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« UPSTREAM-DOWNSTREAM » COMMON CAUSE ON THE SCALE OF BASINS AND SUB-BASINS

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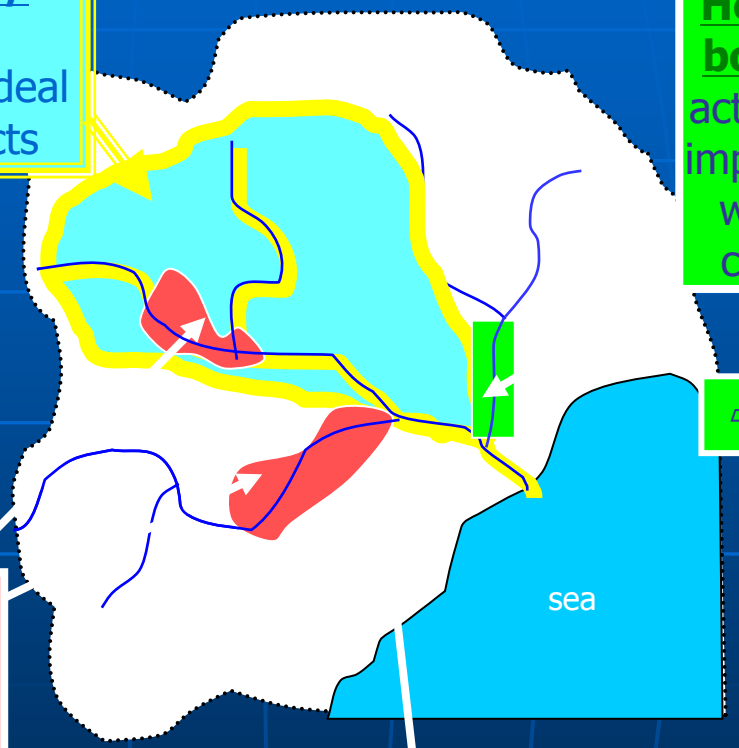
Sub-basin/Sector/ Water type
element of district to deal with particular aspects

Heavily modified water bodies (HMWB): human activity carried out makes it impossible to reach the goal without disproportionate costs (change activity…)

⇨ *no link with pollution*

THE DIFFERENT HYDROLOGICAL SCALES:



Water bodies
scale of evaluation of the achievement of the objetives

District =
river basins + associated groundwaters and coastal waters

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TWO HUNDRED AND SIXTY THREE RIVERS OR LAKES AND HUNDREDS OF AQUIFERS ARE TRANSBOUNDARY ONES

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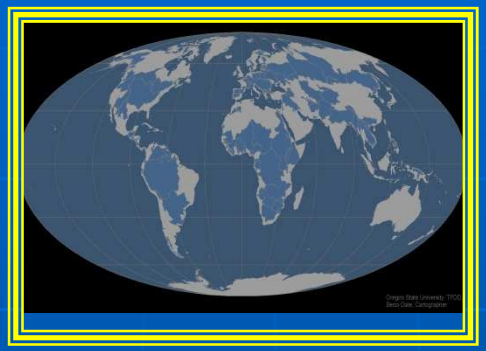

Transboundary basins per continent.

	2002	Pourcentage du territoire
Afrique	59	62 %
Asie	57	39 %
Europe	69	54 %
Amerique du Nord	40	35 %
Amerique du Sud	38	60 %
TOTAL	263	45 %

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All kinds of water
Are taken into consideration

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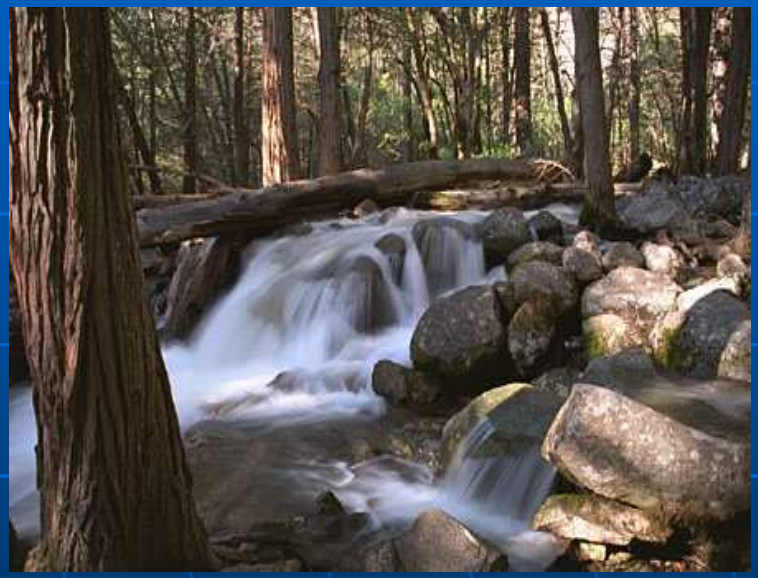

* surface waters
* groundwater

* transitional water
* coastal waters…

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IWRM

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NOT ONLY WATER ALLOCATION BETWEEN SECTORS,

INTEGRATED WATER RESOURCE MANAGEMENT

- **OVERALL MEETING OF RATIONAL AND LEGITIMATE DEMANDS**
  - Agriculture
  - Domestic uses
  - Industry
  - Fish farming
  - Electricity
  - Transports
  - Leisure
  - Fishing
- **WASTEWATER TREATMENT AND RECYCLING,**
- **CONSERVATION OF ECOSYSTEMS:**
  rivers, lakes, wetlands, aquifers, costal areas,
- **RISK PREVENTION :**
  - Erosion
  - Drought
  - Floods

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IWRM CONCERNS

ALL MAJOR WATER USES

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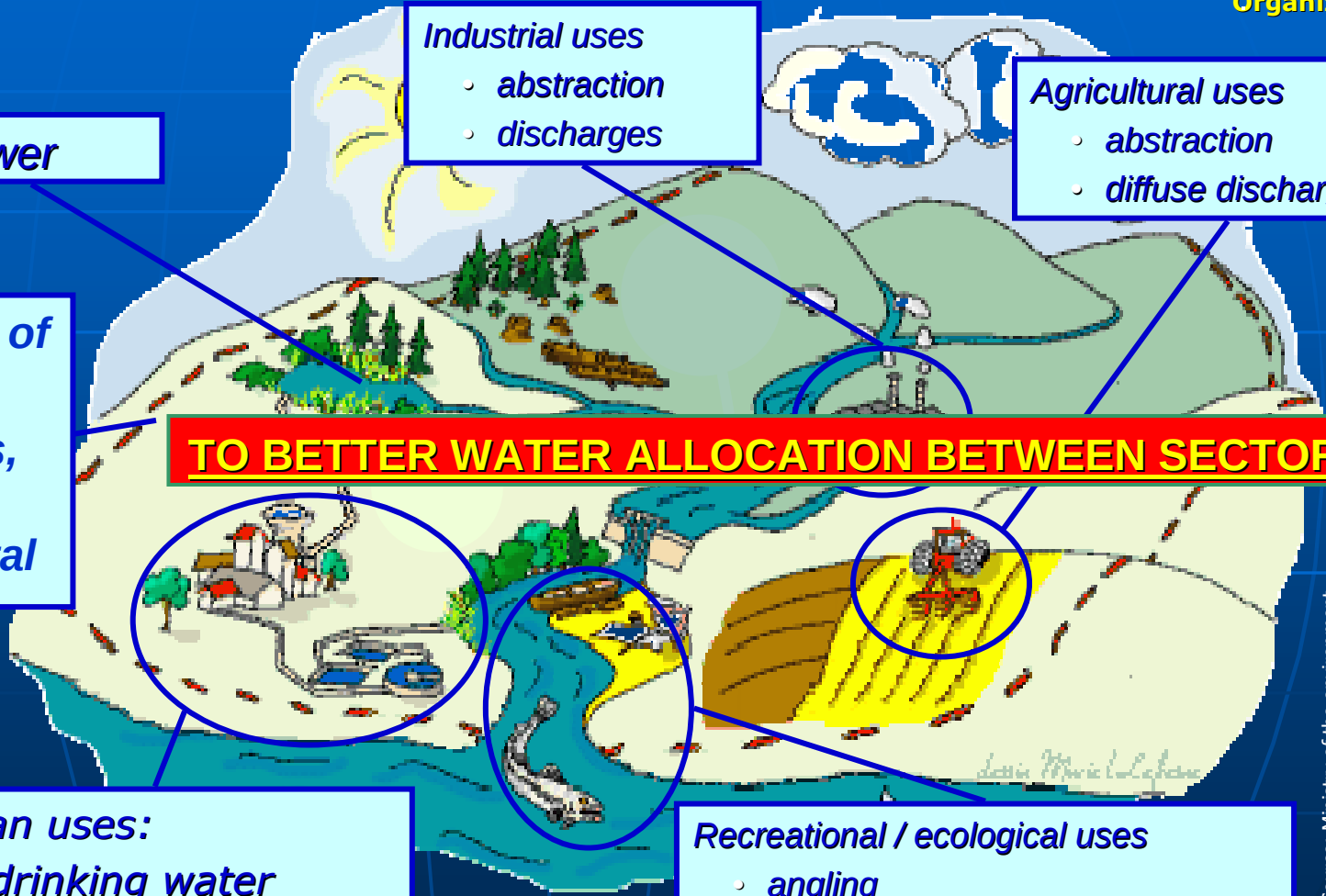
Industrial uses
- *abstraction*
- *discharges*

Agricultural uses
- *abstraction*
- *diffuse discharges*

hydropower

- *Conservation of ecosystems:*
  - *rivers, lakes, wetlands, aquifers, costal areas,*



TO BETTER WATER ALLOCATION BETWEEN SECTORS,

Urban uses:
- *drinking water supply*
- *wastewater treatment*

Recreational / ecological uses
- *angling*
- *bathing...*

Source: Ministry of the environment, Québec, Canada

Ecological objectives

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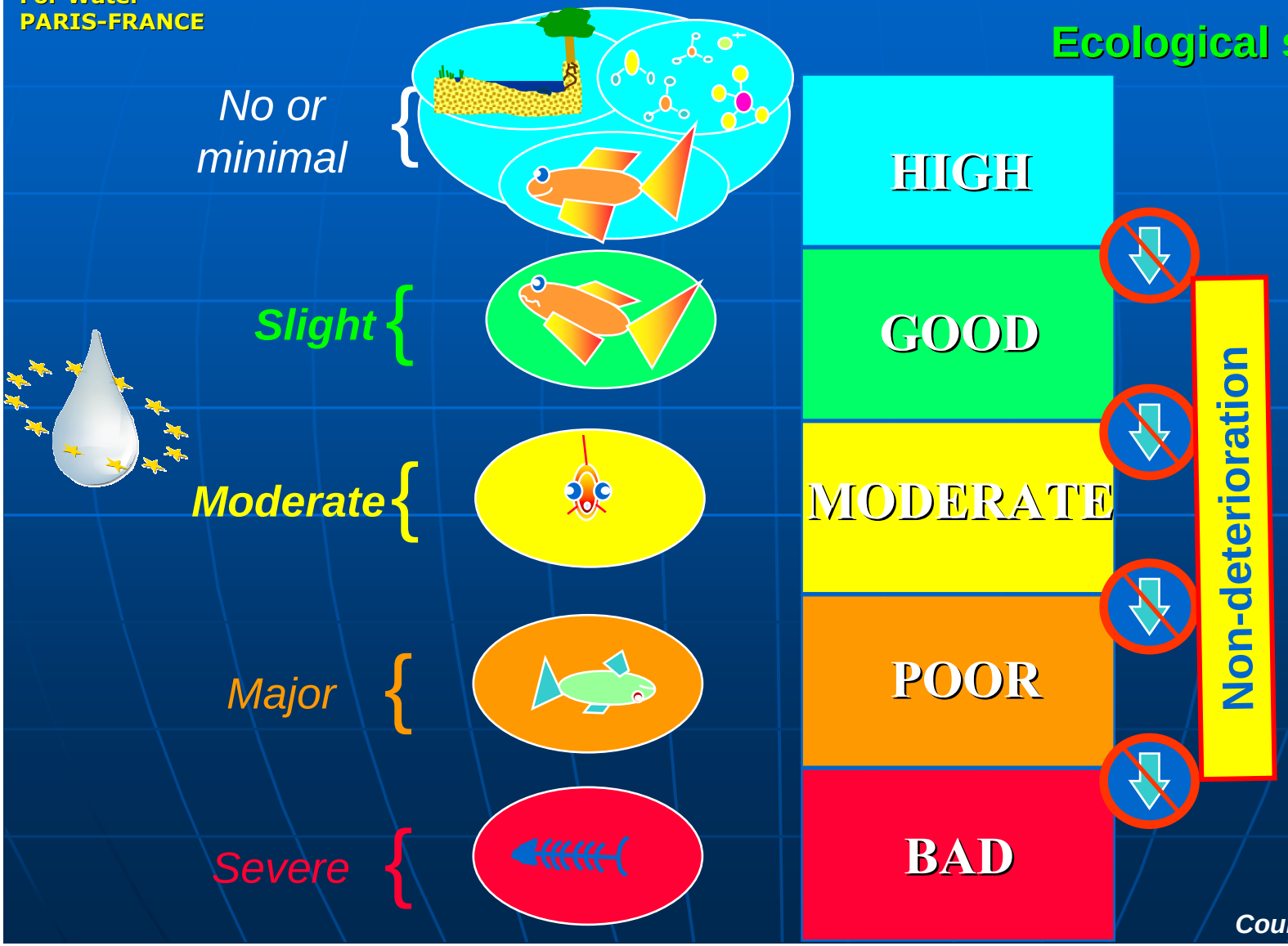

Global warming cannot now be avoided.

Fresh water resources will be directly affected in the coming years!

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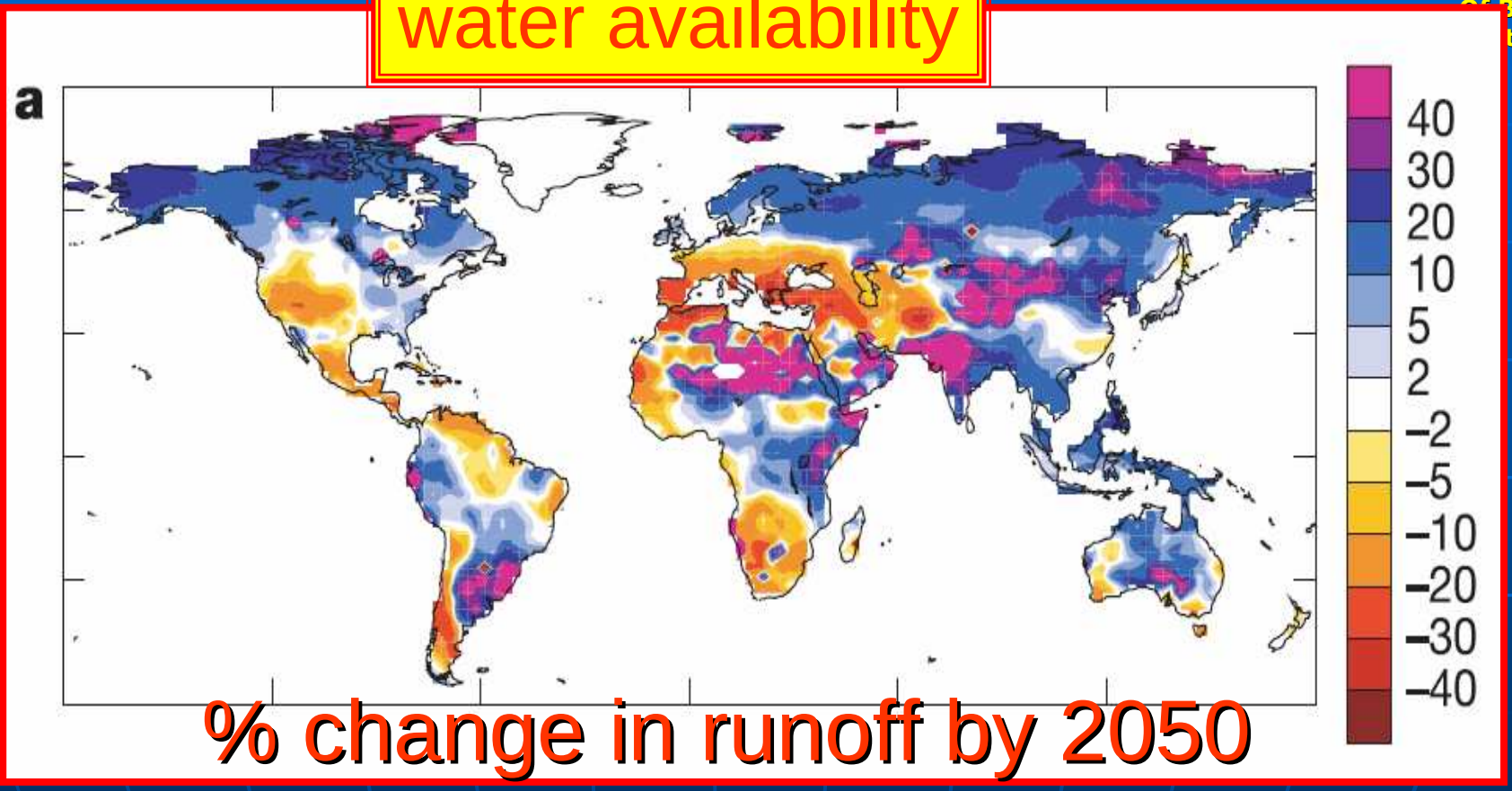
water availability



% change in runoff by 2050

- Many of the major "food-bowls" of the world are projected to become significantly drier
- Globally there will be more precipitation
- Higher temperatures will tend to reduce run off
- A few important areas drier (Mediterranean, southern South America, northern Brazil, west and south Africa)

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INTEGRATED FLOOD CONTROL: FORECAST, PREVENTION, PROTECTION

- Foreseeing hazardous events,
- Reducing vulnerabilities,
- Protecting people and properties,
- Warning and educating.

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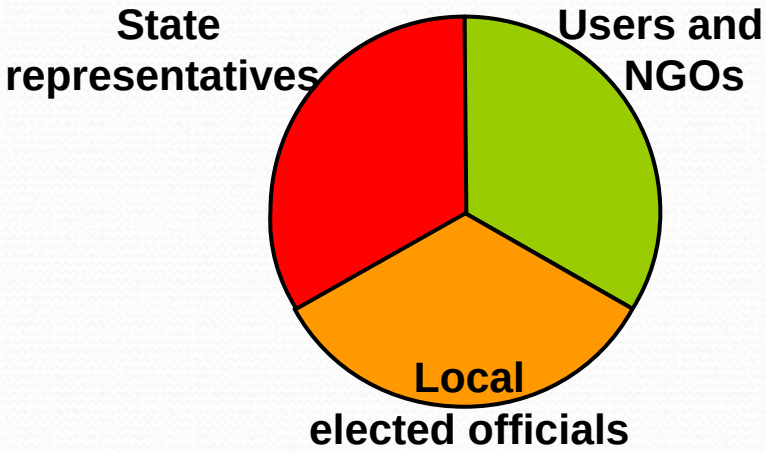
WITH REGARD TO DROUGHTS:

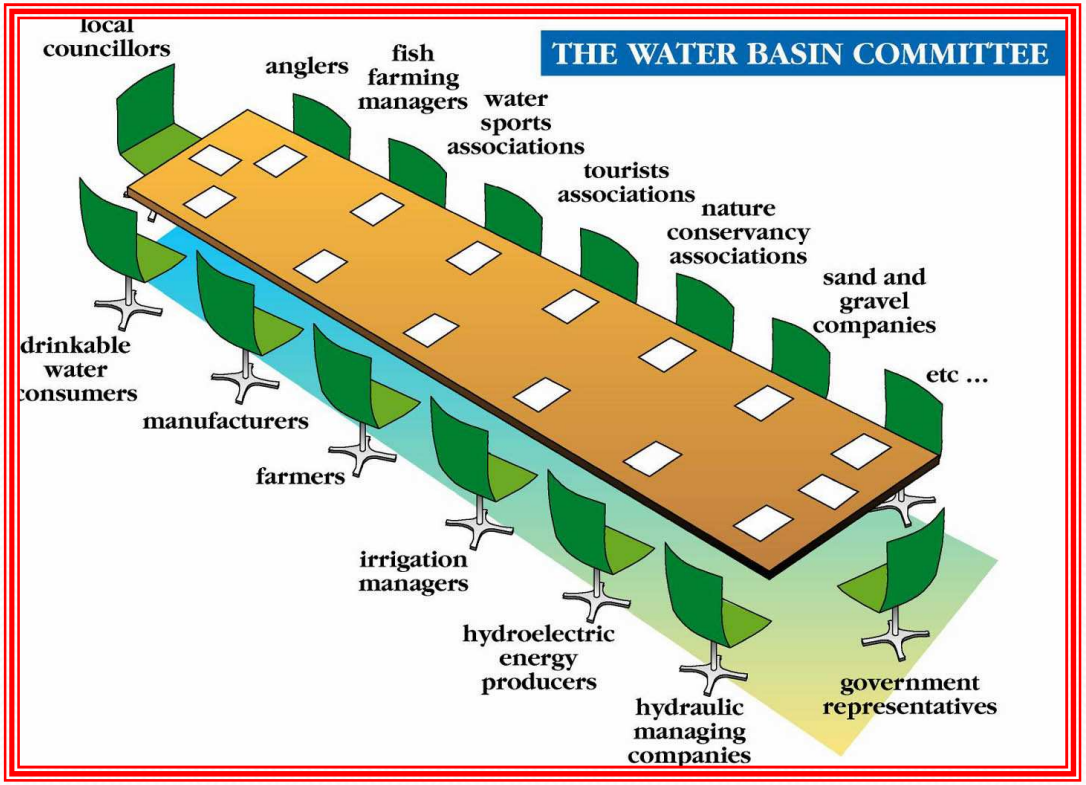
- WATER SAVING,
- AVOIDING WASTAGES,
- LEAK DETECTION,
- RECYCLING,
- THE REUSE OF TREATED WASTE WATER,
- GROUNDWATER RECHARGE,
- THE DESALINATION OF SEA WATER,
- RESEARCH ON LOW-CONSUMPTION USES…

… MUST BECOME PRIORITIES.

« THE WATER PARLIAMENT »
The River Basin Committee



Elects the Chairman



- **The representatives of populations and local authorities, water users or organizations representing collective interest should participate in basin management beside administrations, especially, in Basin Councils or Committees.**

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The European Framework Directive:
the future of water resource management
In the European Union.

Obligations of the directive

Member States have to consult the public on :

① the timetable and work programme,

② an overview of the significant water issues identified in each river basin

③ draft of the river basin management plan

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Conflicts

requirements collected
from each point of view

Designing a program
through **dialogue**

Reaching **agreement**
with an ambitious program

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Integrated information and monitoring systems

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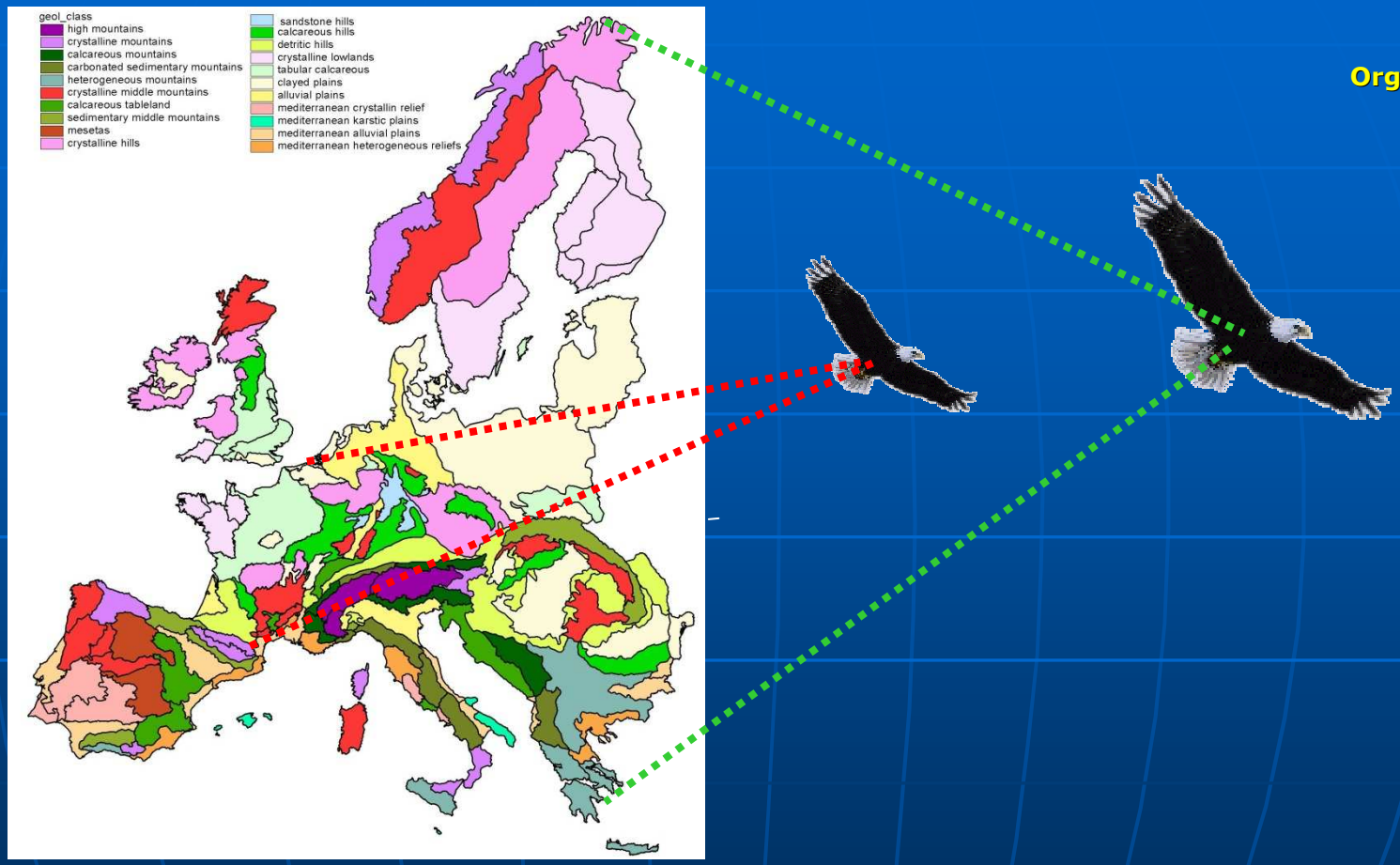

- **Integrated information and monitoring systems** which are reliable, representative, harmonized and easily accessible, and specific research should be organized in each basin,

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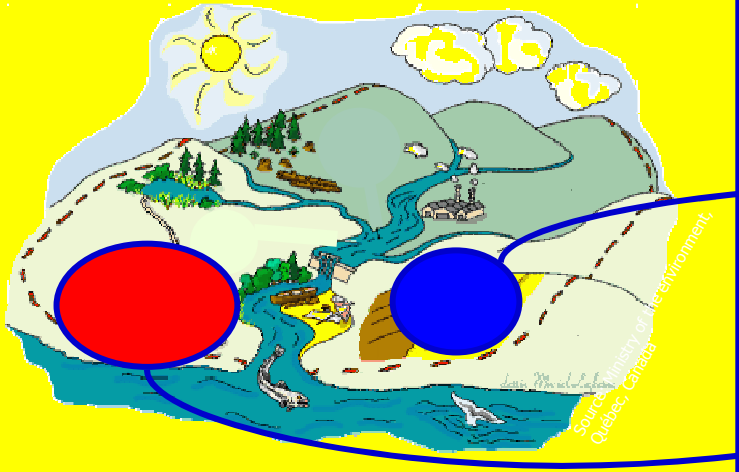
2004

2015

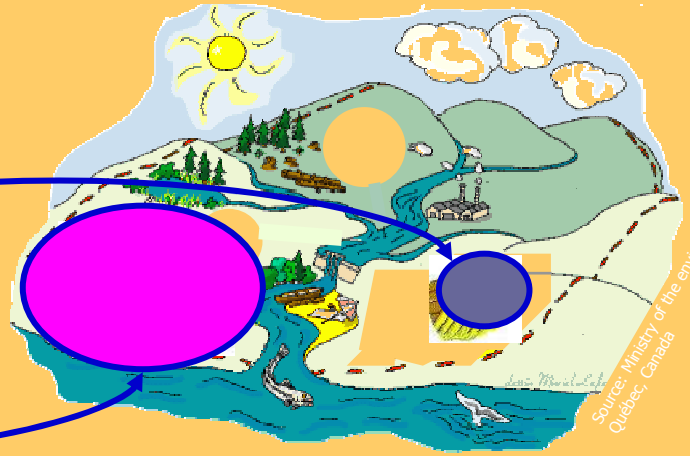
Description of the initial situation



Focus on economic aspects:

- estimate the economic "weight" of water uses and services
- assess the level of recovery of costs of water services

Baseline scenario: projection for 2015



Baseline scenario:

- appraisal of evolutions of uses, pressures...
- identification of potential gaps in water status with GES

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TRANSPARENY OF COSTS AND POLLUTER-PAYS PRINCIPLE:

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Costs	Definition	*Example*
Direct cost	Capital costs	*Principal and interest, depreciation*
	Operating costs	*Wages, electricity, maintenance of equipment, analyses of the quality of water…*
Environmental cost	Costs of the damages to the environment caused by a given activity	*Contamination of an aquifer, destruction of wetlands…*
Resource cost	Value of the alternative foregone by choosing a particular activity (= opportunity costs)	*Cost of electricity that could have been produced if water would be available instead of being pumped for irrigation*

Sum = full cost

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THE « POLLUTER - USER – PAYS » PRINCIPLE

Abstraction taxes

Pollution taxes

The Basin Organizations Budget adopted by the Board of Directors with approval of the Basin Committee

10 %

- Studies & Research
- Operation
- Measurement networks

90 %

- Aid = 5-year Program
- Big developers
- Local authorities
- Farmers
- Industrialists

Improving knowledge:

- on water resources,
- on aquatic environments,
- on linked territories, urban and rural,
- on their uses,
- on their statutes,
- on their economy,
- on presures and impacts...

is essential to allow decision-making.

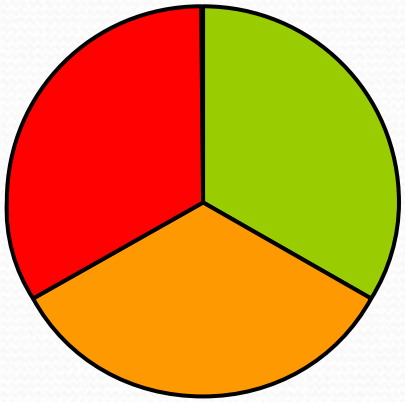
New Knowledge to be increased: Main priorities.

- Climate Change,
- Water scarcity, Droughts and Floods,
- Ground water,
- WFD and agriculture,
- Hydropower and Navigation,
- Hydro-morphology, Ecological status,
- Priority substances / Chemical monitoring,
- Cost transparency and effectiveness,
- Integrated River Basin Management, Users Participation….
- Inter-calibration – Monitoring - Reporting and WISE,

"THE WATER PARLIAMENT
The River Basin Committee

State representatives

Users and NGOs



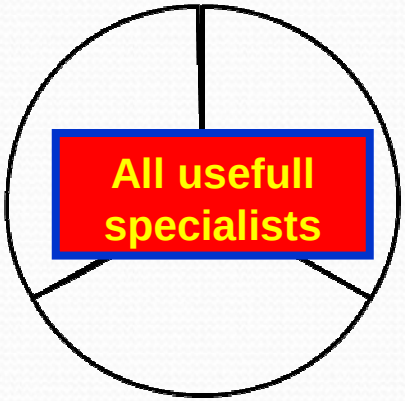
Local elected officials

Elects the Chairman

Questions

Answers

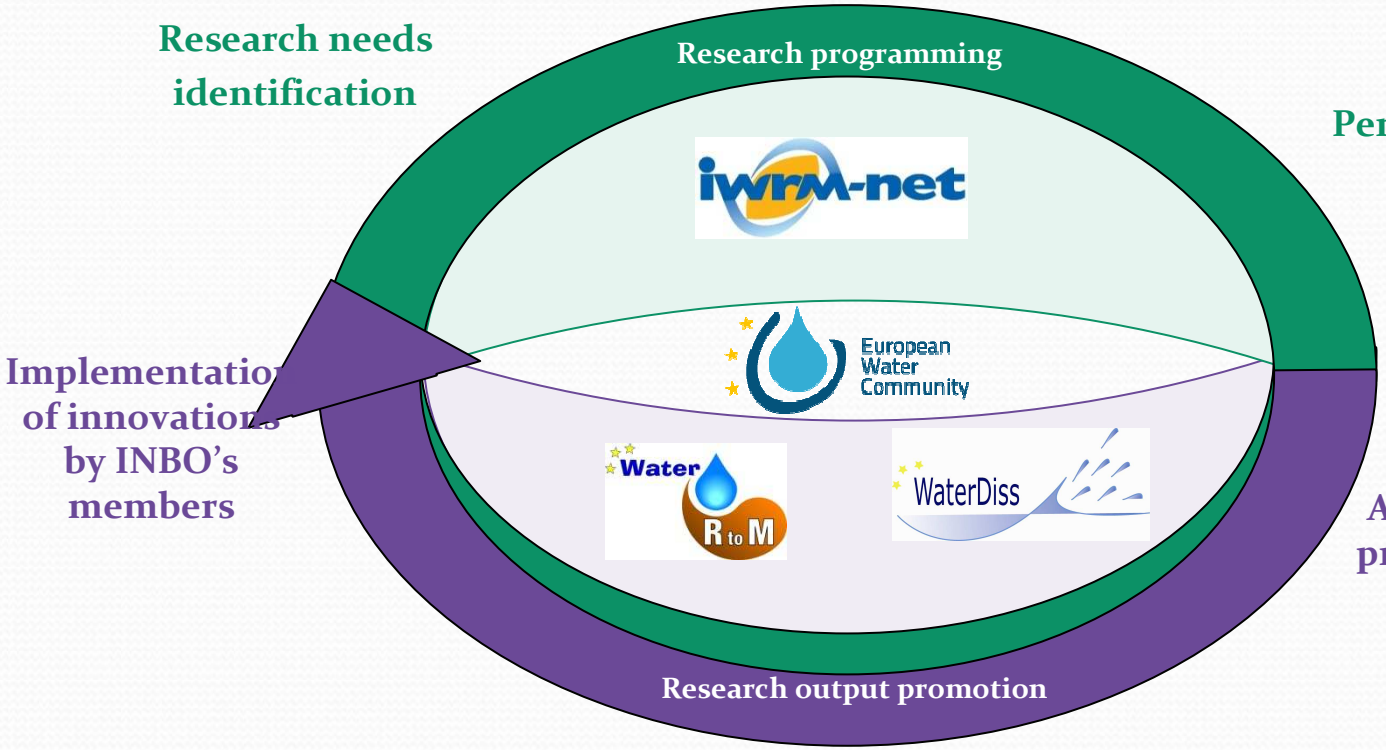
The River Basin Scientific Council



The Chairman is chosen By The River Basin Committee

SPI Mechanisms to connect research with end users

INBO involvement as end user



Innovation = innovative research outputs in water domain

Regional and national research programmes network on iwrm-net Integrated Water Resource Management

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IWRM-Net lessons learnt

Research needs identification

Not all needs are scientific:
Workshops with water managers, researchers, NGOs should be facilitated based on participatory methods

Research programmes

Changes of practices:
Programmers initial & final assessment also based on non-scientific criteria;
Ask for policy oriented papers to present scientific results

Research projects

- Trans-disciplinary approach
  Bringing more policy into the science
- Create links among researchers (and research managers) supported by the research programme management and dedicated networking tools

Outputs

Transfer to the end users in an appropriate format, language, user-friendly tools, etc. and exploitation /transferability to other contexts (WaterDiss & WaterRtoM)

WaterRtoM lessons learnt and recommandations

Research needs identification

↓

Research programmes

↓

Research projects

↓

Research Outputs

↓

Outputs on the Market

Before the research projects are designed:
- Involve BO to fill/feed concrete needs.
- Support BO to formulate their needs in understandable words for researchers
- Encourage end-users to participate to liaison committees

Provide **toolkit / guidelines** to constraint researchers to « **promote / disseminate** » the outputs and to include BO at the early stage of the research project

Take into consideration at early stage the **future implementation** of the outputs (Draft what are the **next steps** to be used by the BO? Do a light Business case)

Gather at national, European, Basin level the research innovation in a common "**Research output database"** to speed-up the identification of available research outputs. Create a frame to give the appropriate information from the BO point of view/needs

Facilitate **Agreements** between **Research-BO** to take over the innovation – Facilitate pilot sites, tests etc

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Common Implementation Strategy

Guidance Documents

1) Economics and the Environment
2) Identification of Water Bodies
3) Analysis of Pressures and Impacts
4) Artificial and Heavily Modified Water Bodies
5) Transitional and Coastal Waters –Typology, Reference Conditions
6) Intercalibration Network and the Intercalibration Process
7) Monitoring
8) Public Participation
9) GIS and the WFD
10) Rivers and Lakes Typology
11) Planning Process
12) Wetlands
13) Classification
14) Reporting
15) Groundwater protection;
16) prevention of groundwater pollution
17) characterisation of coastal waters

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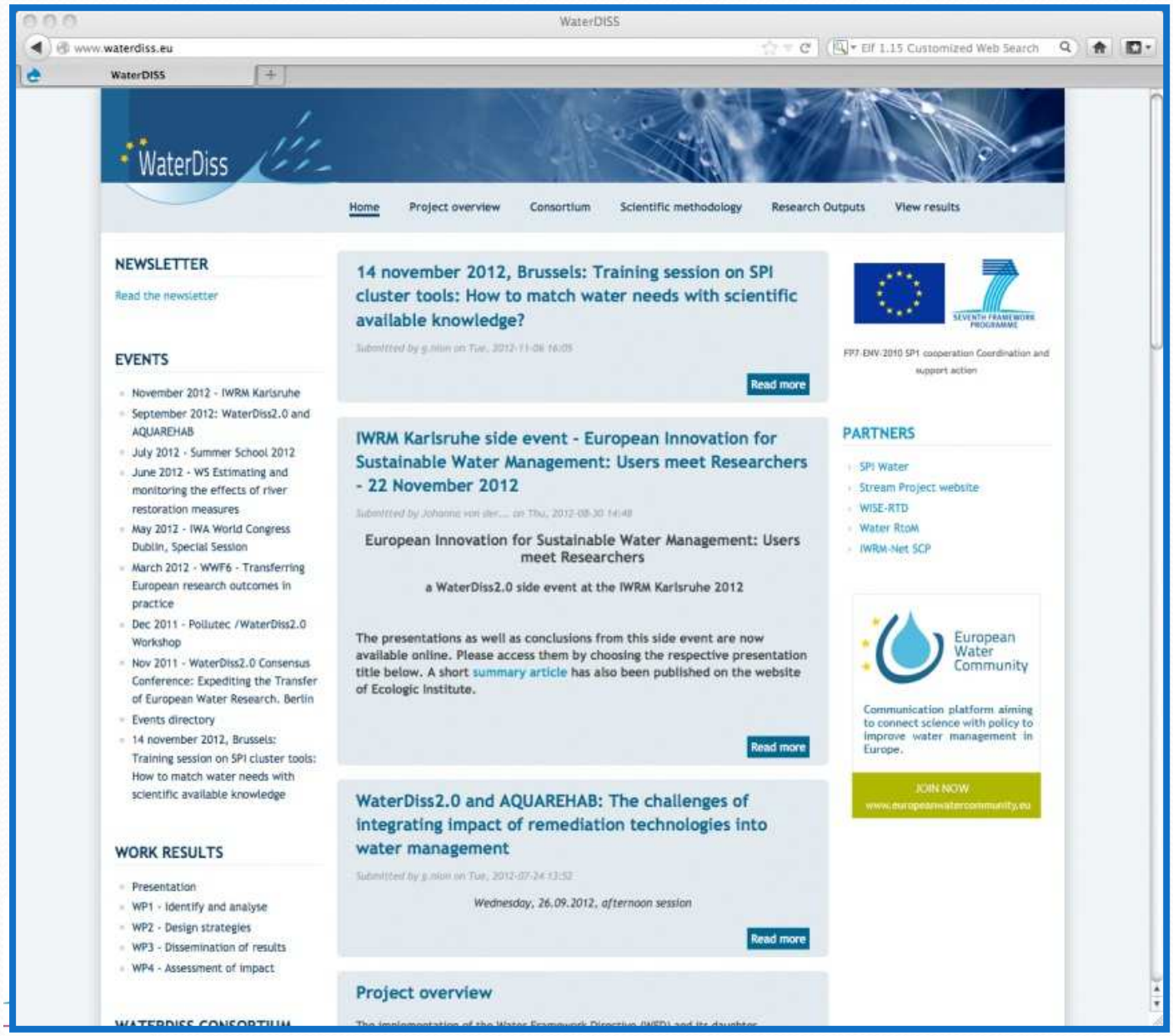
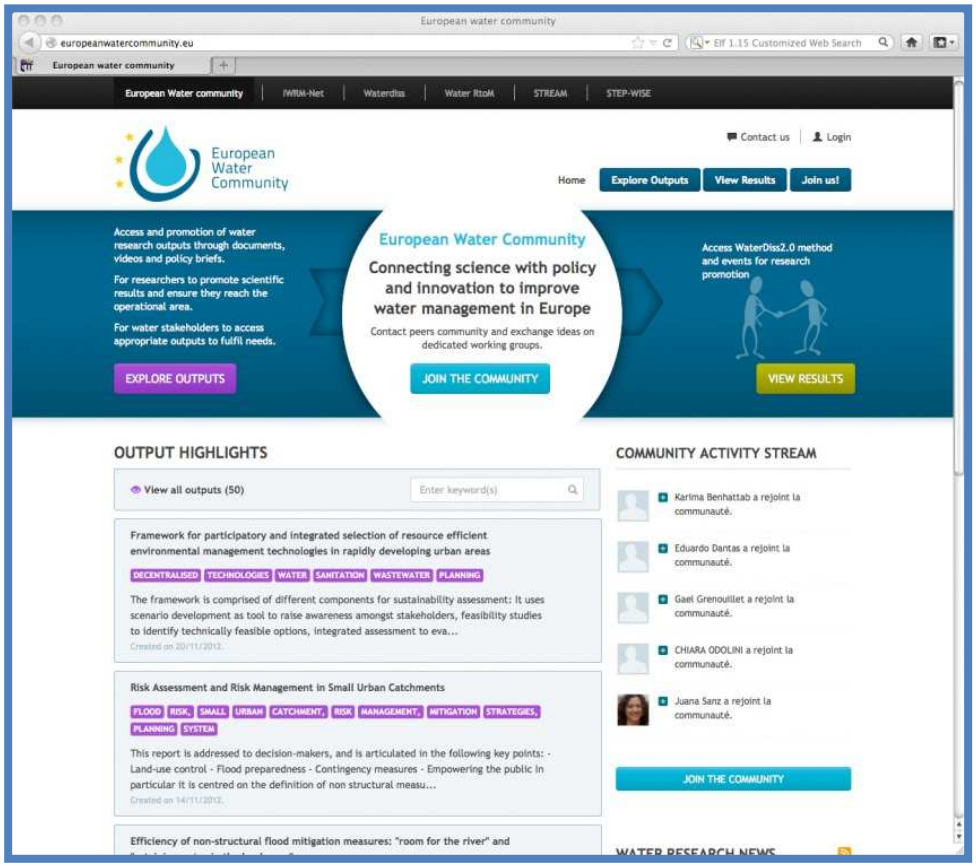


WaterDiss

Southern European Regions | management systems

The European Water Community

provides dedicated space to water stakeholders:



For researchers to promote outputs and ensure they reach the operational area

For practionners (Water managers, consultants, suppliers...) to access the appropriate tools/methods to fulfill their needs

Join now on

www.europeanwatercommunity.eu

Thanks for your attention

Jean-François Donzier
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International Network of Basin Organizations

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