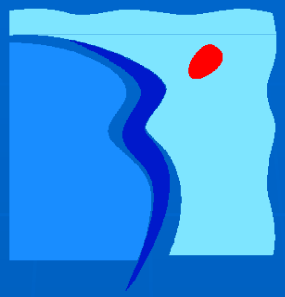

Office International de l'Eau

International Office for Water

Oficina Internacional del Agua

Международное бюро по водным ресурсам

المكتب الدولي للمياه

水资源国际办公室

8th WORLD GENERAL ASSEMBLY

OF THE INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS

DAKAR (SENEGAL) – FROM 20 TO 23 JANUARY 2010

REPORT of

Mr. Jean - François DONZIER

General Manager

International Office for Water

Permanent Technical Secretary

INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS


8th WORLD GENERAL ASSEMBLY
OF THE INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS
DAKAR (SENEGAL) – FROM 20 TO 23 JANUARY 2010
INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS
流域组织国际网
Международная сеть водохозяйственных организаций,
Réseau International des Organismes de Bassin
International Network of Basin Organizations
Red Internacional de Organismos de Cuenca
الشبكة الدولية لهيئات الأحواض

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International Network of Basin Organisations, OBJECTIVES:

International Network of Basin Organizations

- 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.

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International Network of Basin Organisations, MEMBERS:

International Network of Basin Organizations

- "**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.

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INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS

Created in 1994 to facilitate operational exchanges between BO

International Network of Basin Organizations

INBO's REGIONAL NETWORKS

188 FULL MEMBERS or PERMANENT OBSERVERS in 68 COUNTRIES

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NANBO
ROBAN
ROCAN

North American Network of Basin Organizations
Réseau des organisations de bassin d'Amérique du Nord
Red de organizaciones de cuenca de America del Norte

International
Network
of Basin
Organizations

NANBO:
North Américan Network of Basin Organizations,

ROBAN:
Réseau des Organismes de Bassin d'Amérique du Nord,

ROCAN:
Red de los Organismos de Cuenca de America del Norte:

CANADA – MEXICO - USA…

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WATER OVER THE WORLD,

A worrying situation:

- Natural hazards are poorly controlled,
- Wastage is inadmissible,
- Water pollution is significantly increasing,
- The situation of the poorest people is intolerable,
- Ecosystems are destroyed…

Wastage and pollution of inland freshwater might limit development in most countries of the world!

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TWO HUNDRED AND SEVENTY SIX RIVERS OR LAKES AND HUNDREDS OF AQUIFERS ARE TRANSBOUNDARY ONES

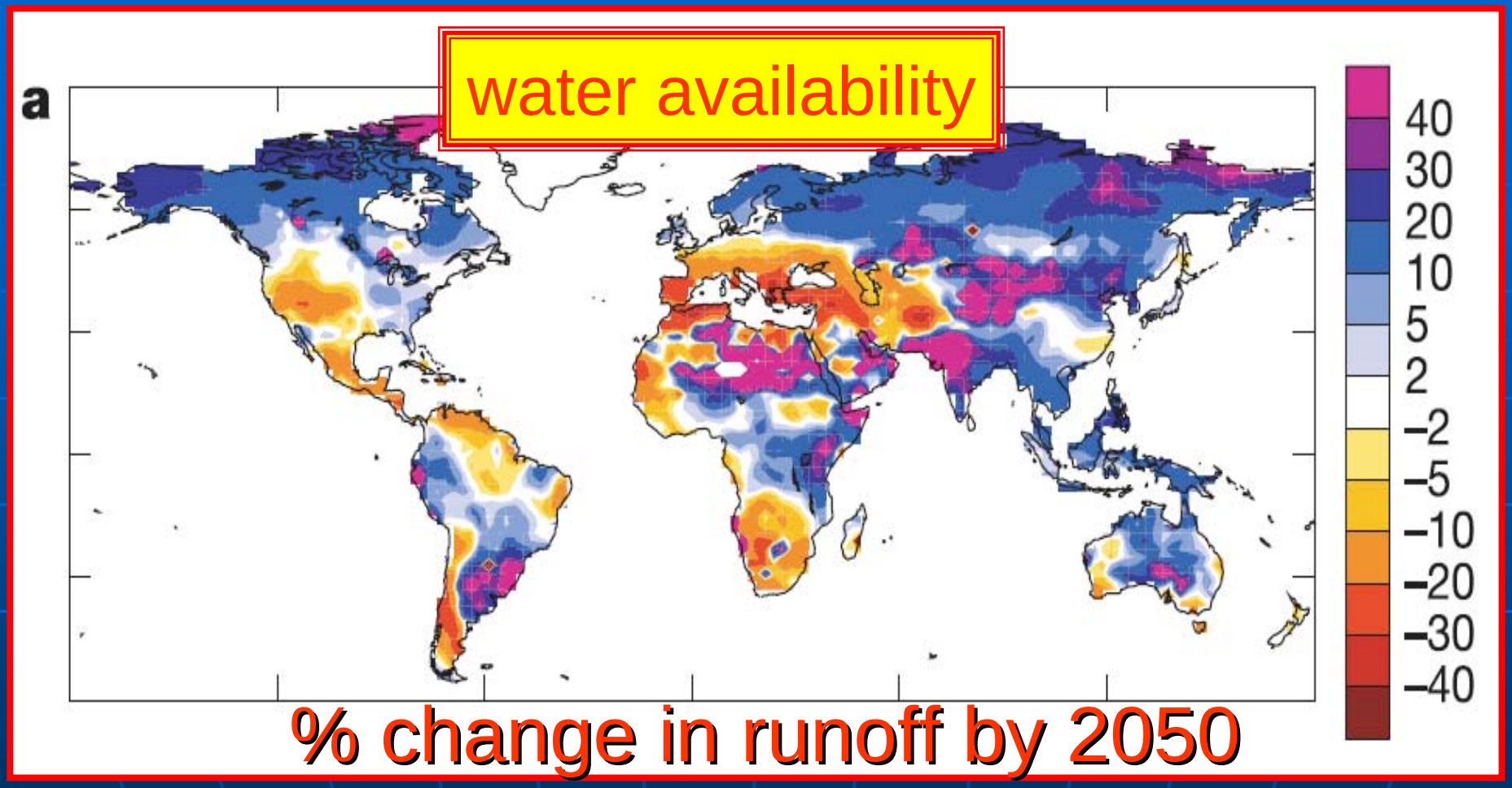
International Network of Basin Organizations

Transboundary basins per continent.

	2002	Percentage Of territory
Africa	59	62 %
Asia	57	39 %
Europe	**69**	**54 %**
America North	40	35 %
America South	38	60 %
TOTAL	263	45 %

Global warming cannot now be avoided.

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

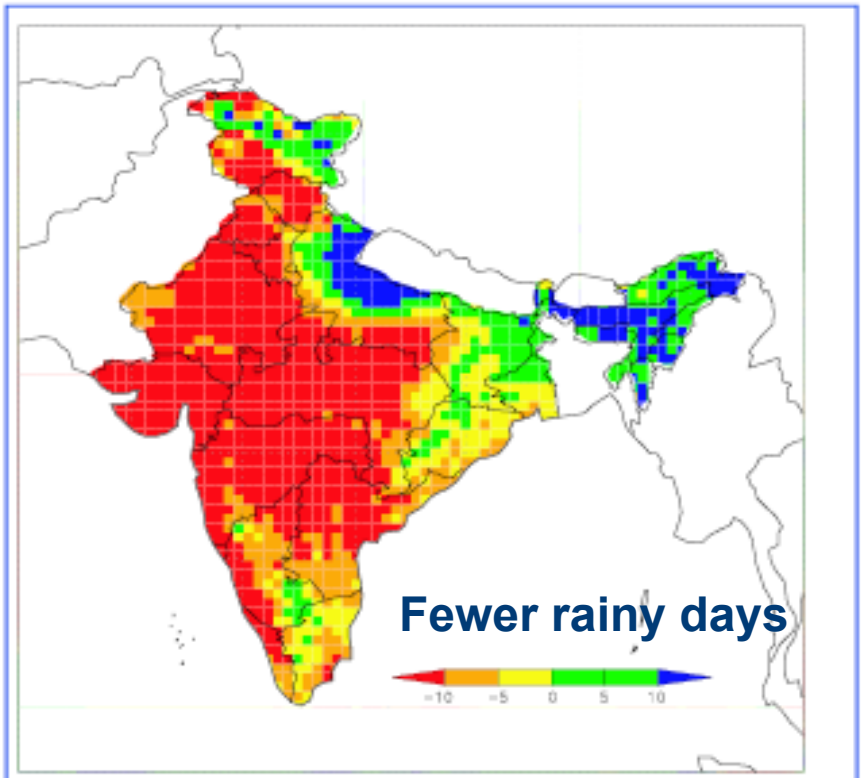


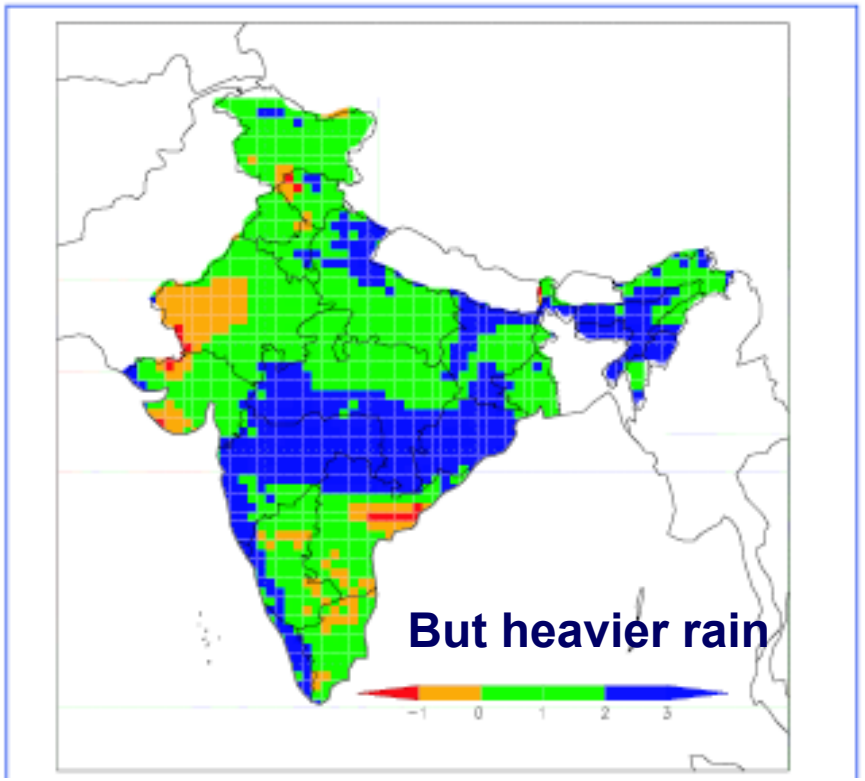
- Many of the major "food-bowls" of the world are projected to become significantly drier
- Globally there will be more precipitation
- Higher temperatures will tend to reduce run off
- A few important areas drier (Mediterranean, southern South America, northern Brazil, west and south Africa)

Some climate change issues:

- **Patterns of precipitation and runoff will change substantially,**
- **Rain in fewer, heavier events leading to more floods and dry spells;**
- **less ground water recharge.**

Projections for increased number of rainy days **(left)**
and amount of rain per wet day **(Right)**
for 2041-2060 period based on modeling (HadRM2)

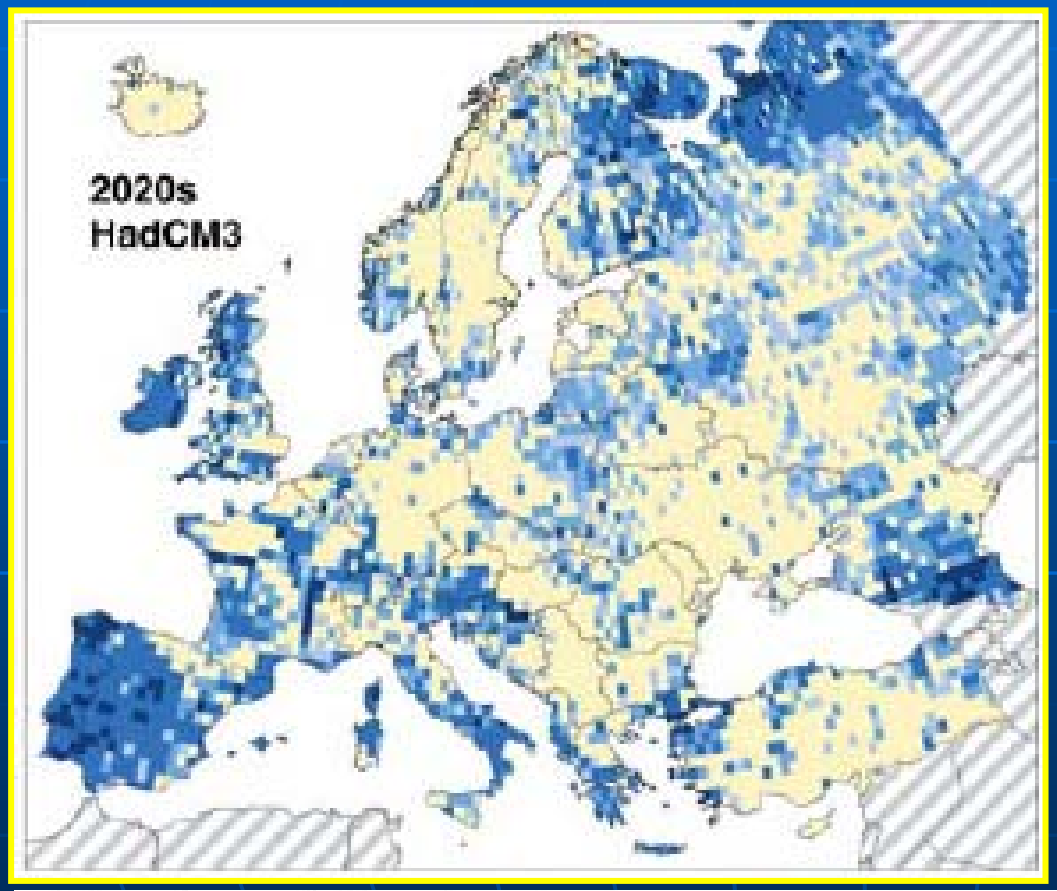




Climate change consequences

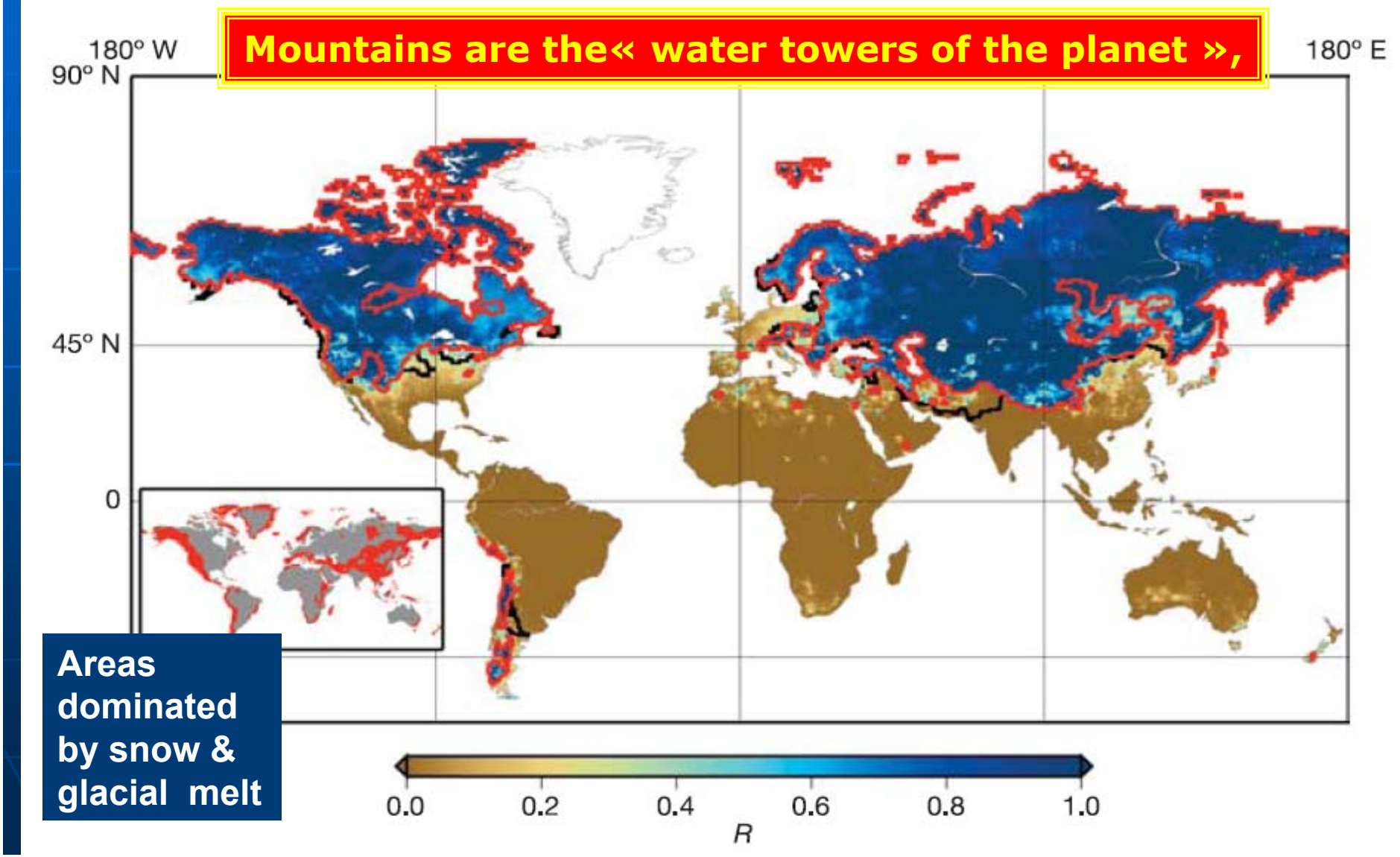
The climate change is likely to increase the frequency of extreme events, such as floods and droughts:

Europe: Changing flood frequency



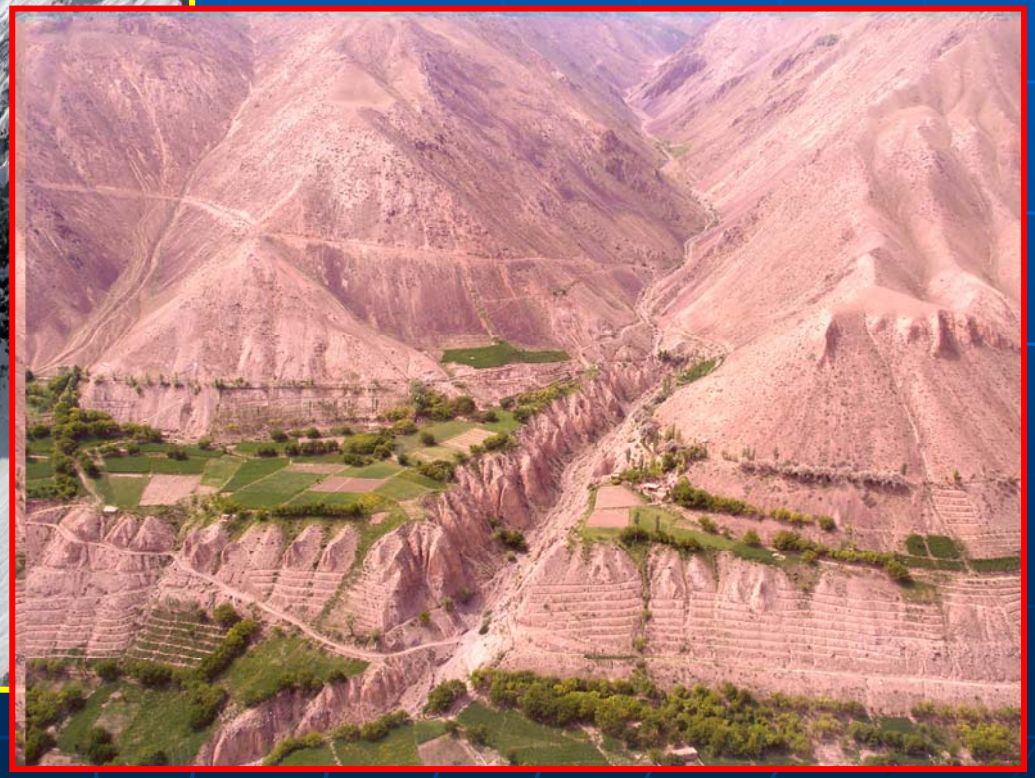
- Over much of Europe ,
- " one in a hundred year floods"
- will occur
- every couple of decades

Globally:
Accelerated glacial and snow melt will change patterns in Water supply



- **Melting glaciers could initially:**

- increase flood risk ,
- strongly reduce water supplies,
- threaten around 1/6 of world's population.



Mountains are the« water towers of the planet »,

- **Agricultural productivity is projected to decrease in the tropics and sub-tropics.**
- **crop yields in Southern Europe are expected to decline by 20% with a 2°C increase in global temperatures.**

Rising sea levels will result in tens to hundreds of million of people moving!

Potential impact of sea level rise: Nile Delta

Population: 3 800 000
Cropland (Km²): 1 800

Population: 6 100 000
Cropland (Km²): 4 500

GRID Arendal UNEP IUCC

0 50 km

Sources: Otto Simonett, UNEP/GRID Geneva; Prof. G. Sestini, Florence; Remote Sensing Center, Cairo; DIERCKE Weltwirtschaftsatlas.

Adaptation of water management to climate change is needed

The demographic, economic and ecological consequences of the climate change are likely to be very significant.

It is thus essential to adapt
water resources management policies,
by taking into account the new elements of this change.

It is especially necessary to quickly evaluate
the hydrological consequences of this change,
according to various scenarios,
to increase the thinking about and prospective,
by developing adapted research programs.

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,

WITH REGARD TO FLOODS:

India

Reuters August 11, 2006
"Indian floods:
kill 350,
leave 4m homeless
in 5 Indian states"

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

THE DIFFERENT HYDROLOGICAL SCALES:

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

Water bodies
scale of evaluation of the achievement of good status

District =
river basins + associated groundwaters and coastal waters

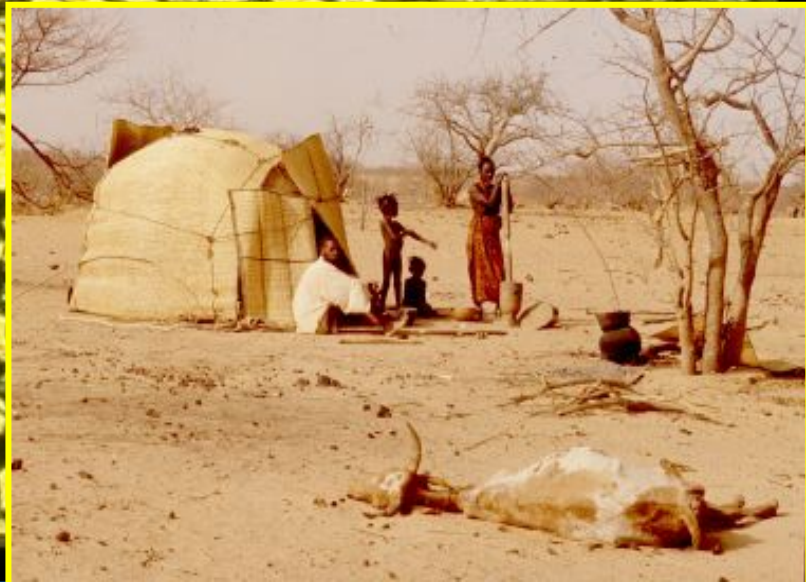
FLOOD CONTROL: PROTECTION, FORECAST, PREVENTION.

PROTECTION AGAINST FLOODS
MUST PASS THROUGH A COORDINATED APPROACH,
COMBINING, ON THE SCALE OF BASINS AND SUB-BASINS:

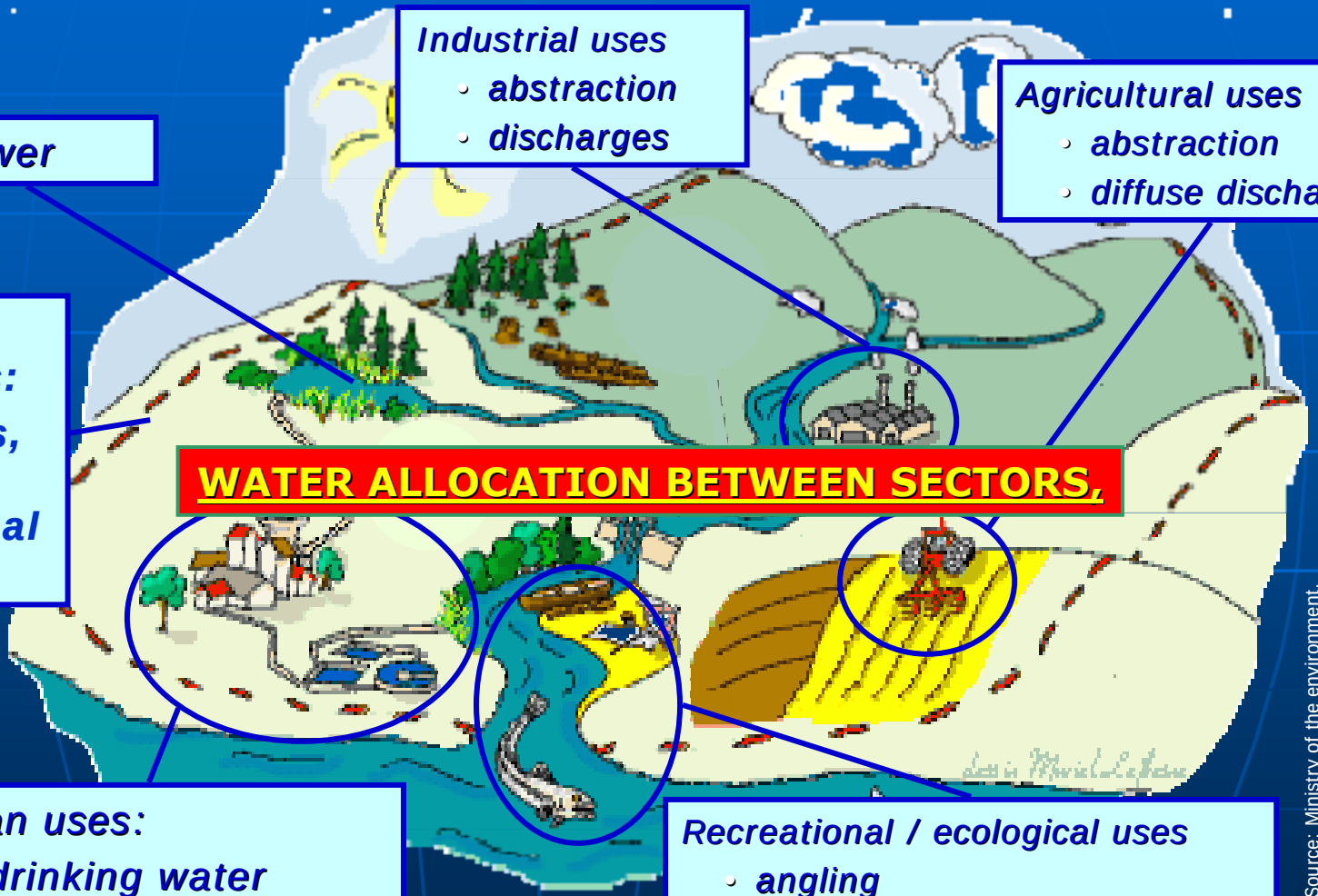
- **Protecting people and properties,**
- **Reducing vulnerabilities,**
  - ***Restoring the free flow of rivers,***
  - ***Preserving - rehabilitating the natural flooding areas,***
- **Foreseeing hazardous events,**
  - ***Identification of hazardous areas,***
  - ***Prohibition of buildings in the exposed areas,***
- **Warning and educating.**

Persistent droughts

Reuters, Feb. 20, 2006
"Approximately 11 million people are threatened by starvation in Djibouti, Ethiopia, Kenya, Somalia and Tanzania… Rain is unlikely before April"



CLIMATE CHANGE CONCERNS ALL MAJOR WATER USES



Industrial uses
- abstraction
- discharges

Agricultural uses
- abstraction
- diffuse discharges

hydropower

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

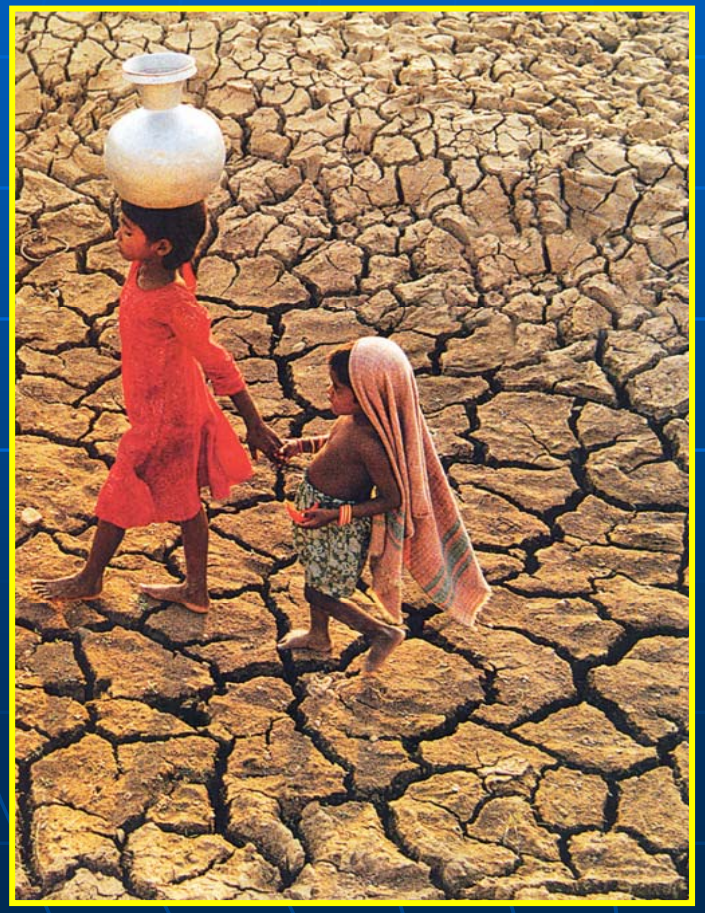
WATER ALLOCATION BETWEEN SECTORS,

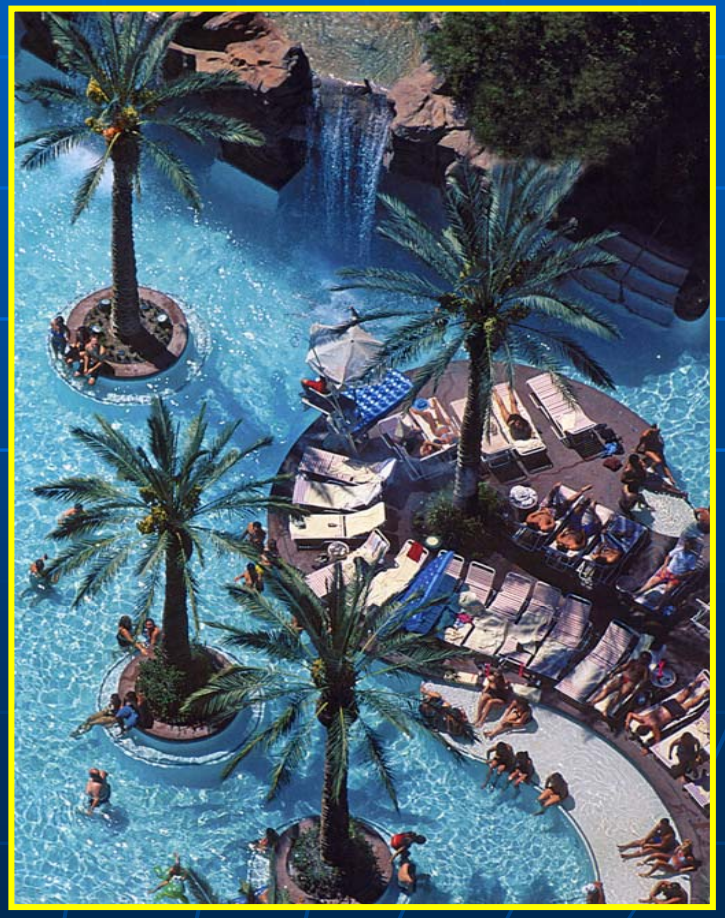
Urban uses:
- drinking water supply
- wastewater treatment

Recreational / ecological uses
- angling
- bathing…

Source: Ministry of the environment, Québec, Canada

IS WATER EQUITABLY AND SOUNDLY SHARED BETWEEN THE VARIOUS USES, ENSURING A BETTER OPTIMIZATION OF WATER AND AVOIDING WASTAGES?





MOBILIZING NEW RESOURCES
SHOULD BE PLANNED
WHEN THEY ARE ECOLOGICALLY ACCEPTABLE
AND ECONOMICALLY REASONABLE.

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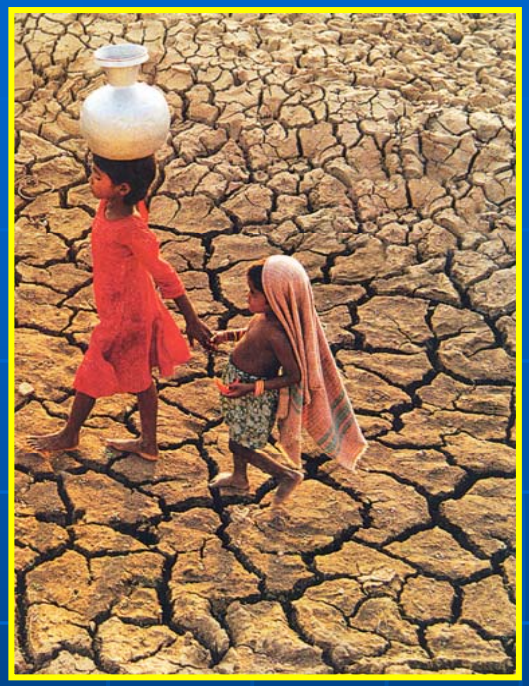
WITH REGARD TO DROUGHTS:



AVOIDING WASTAGES!

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

... MUST BECOME PRIORITIES.

A NEW APPROACH TO WATER USES IN AGRICULTURE SHOULD BE LOOKED FOR.

RIVER BASIN MANAGEMENT EXPERIENCED
A QUICK DEVELOPMENT IN MANY COUNTRIES

INTEGRATED WATER RESOURCE MANAGEMENT

- **OVERALL MEETING**
  OF RATIONAL AND LEGITIMATE DEMANDS

Agriculture	Electricity
Domestic uses	Transports
Industry	Leisure
Fish farming	Fishing

- **WASTEWATER TREATMENT AND RECYCLING,**
- **CONSERVATION OF ECOSYSTEMS:**
  rivers, lakes, wetlands, aquifers, costal areas,
- **RISK PREVENTION :**
  Erosion
  Drought
  Floods

water resources management should be organized:

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1)<u>on the scale of local, national, transboundary basins of rivers, lakes and aquifers;</u>

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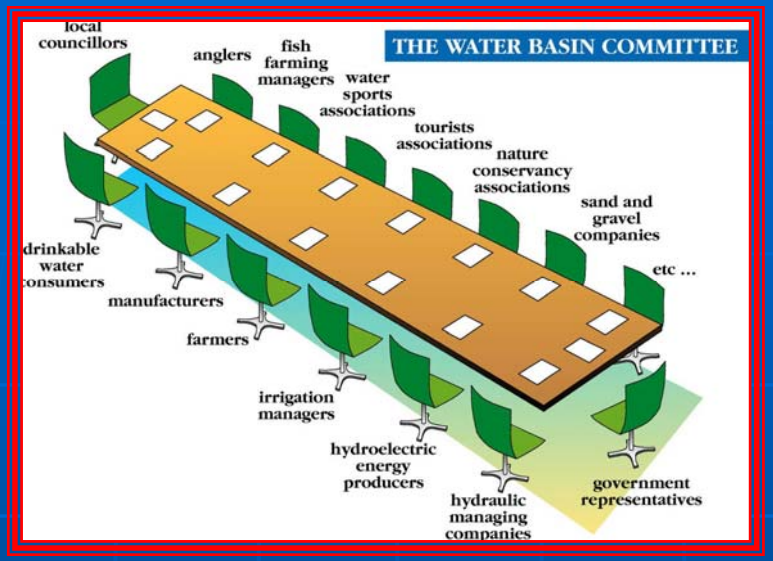

2) with the participation in decision-making

of the concerned Governmental Administrations and local Authorities,
the representatives of different categories of users
and associations for environmental protection or of public interest,

especially, **in Basin Councils or Committees.**

- Information, awareness and education of populations or users and of their representatives are essential,

Conflicts
requirements collected
from each point of view

Designing a program
through **dialogue**

Reaching **agreement**
with an ambitious program

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water resources management should be organized:

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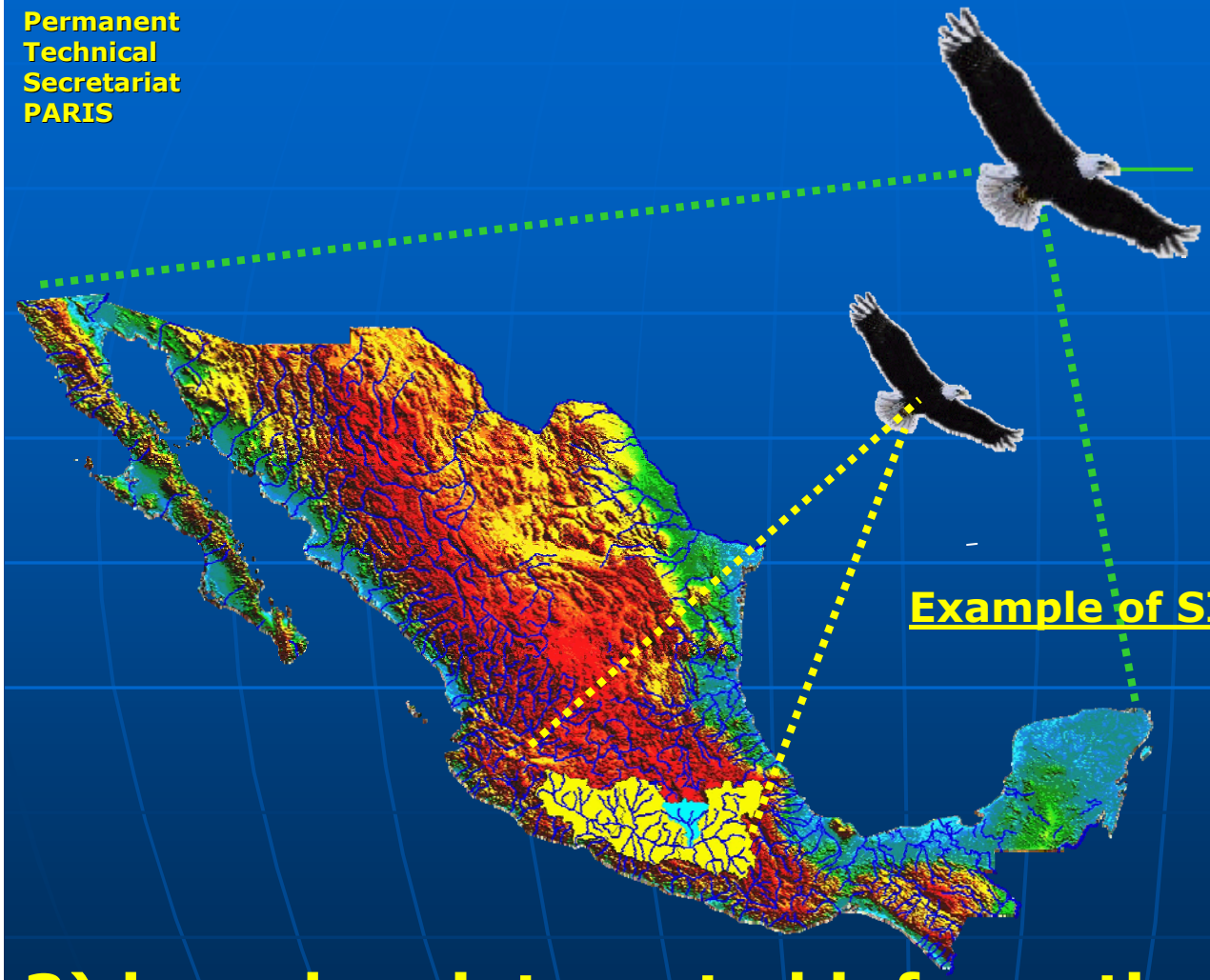

Example of SINA and SIRA in Mexico

3) based on integrated information systems,

allowing knowledge on resources and their uses, polluting pressures, ecosystems and their functioning, the follow-up of their evolutions and risk assessment.

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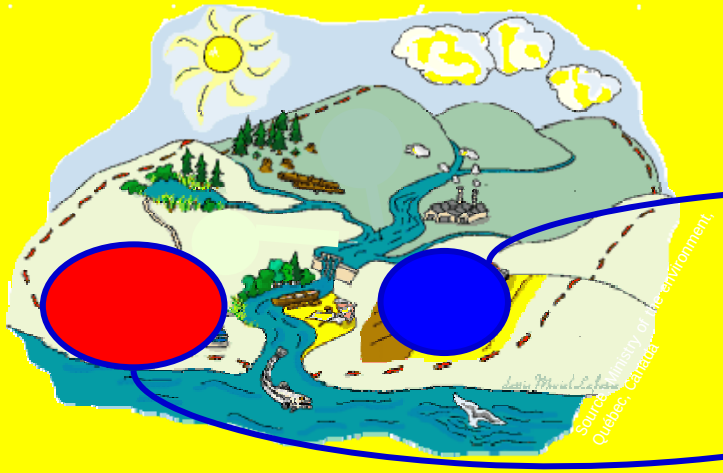
water resources management should be organized:

2000

Description of the initial situation

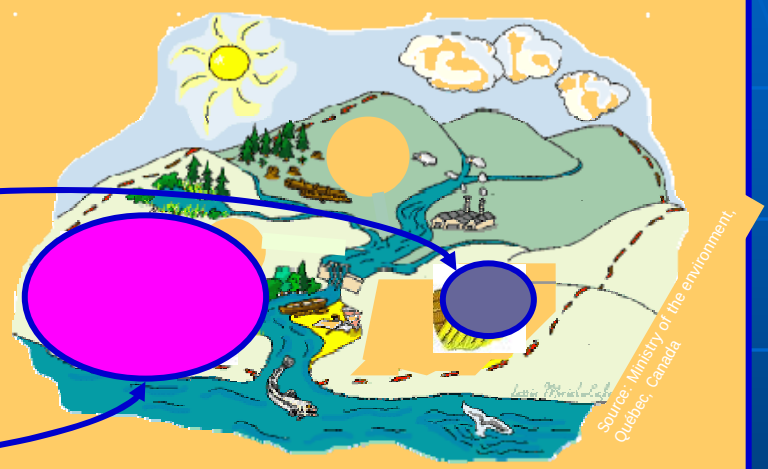


Focus on economic aspects:

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

2025

Baseline scenario: projection for 2025



Baseline scenario:

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

4) based on management plans or master plans

that define the medium and long-term objectives to be achieved;

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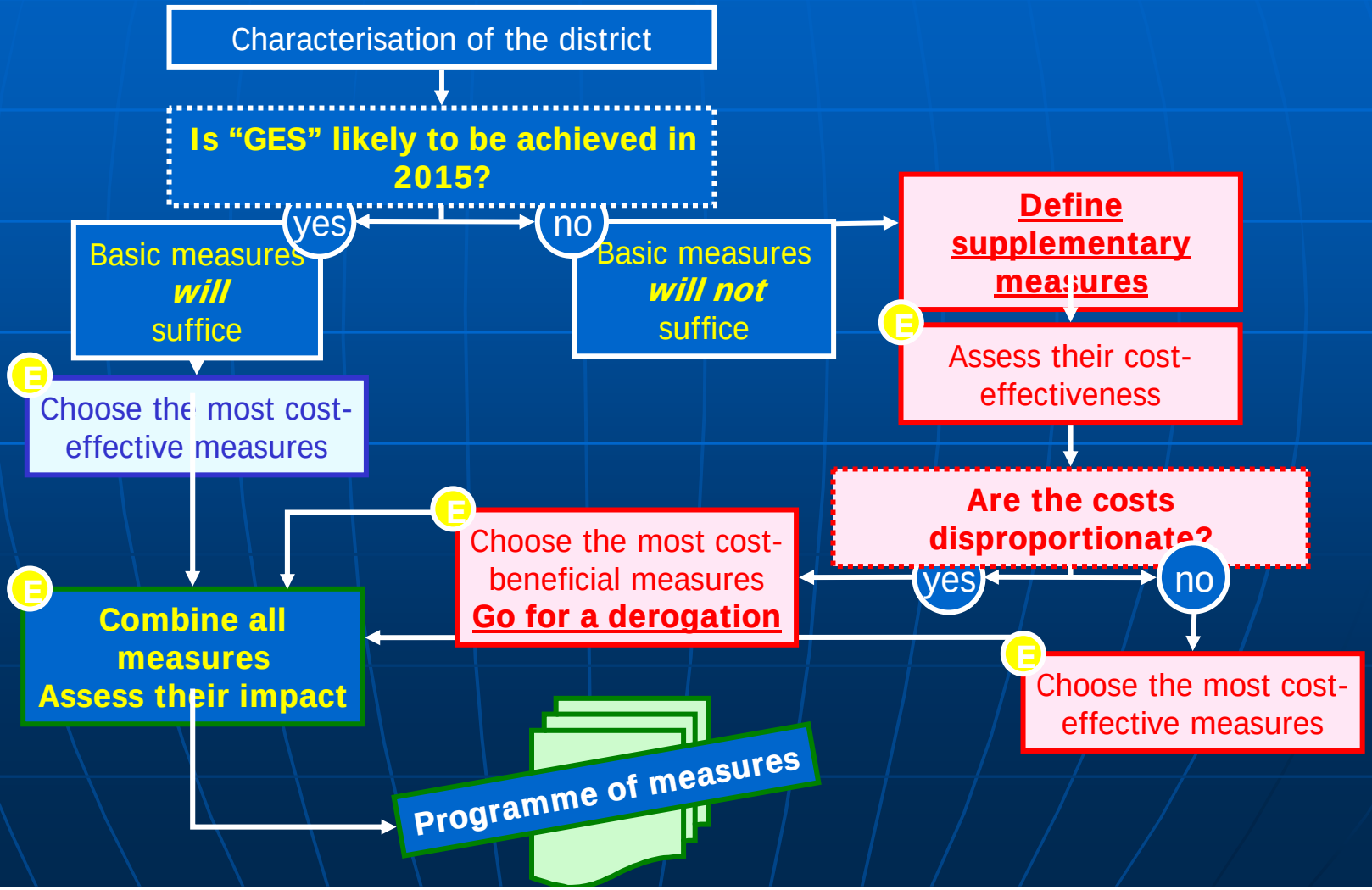
water resources management should be organized:

5) through the development of Programs of Measures and multiyear priority investments;



6)with the mobilization of specific financial resources,

THE « POLLUTER - USER – PAYS » PRINCIPLE

Abstraction taxes

French WA = 2.300 Bi €/year!

Pollution taxes

The Water Agency's Budget adopted by the Board of Directors with approval of the Basin Committee

10 %

- Studies & Research
- Operation
- Measurement networks

90 %

- Aid = 6-year Program
- Big developers
- Local authorities
- Farmers
- Industrialists

FINANCING WATER POLICY :

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EQUALIZATION OF FINANCIAL EFFORTS:

- **Territorial equalization:**
  in the same geographic area or basin
- **Sectoral equalization:**
  between public services – drinking water – electricity – sanitation – solid wastes ...
- **Equalization between users:**
  rich, poor, big consumers / polluters,
  small consumers / polluters
- **Equalization between functions:**
  between upstream and downstream areas,
  between commercial services and administrative functions

water resources management should be organized:

6)with the mobilization of specific financial resources,

VARIOUS COMPLEMENTARY SYSTEMS FOR COST RECOVERY

- **ADMINISTRATIVE TAXES:** paid to the general budget.
  - General taxes or penal fines
  - New ecological tax.
- **WATER-RELATED CHARGES:**
  - National water charges – transiting through "Special Accounts of the Treasury"
  - Basin water charges – levied by the Water Agency
- **THE PRICING OF COMMUNITY SERVICES:**
  - Price of raw water – levied by big developers
  - Price of drinking water – levied by the municipalities or water suppliers
- **TRANSFERTS**: International aid or from other economical sectors.

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DEFINING ROLES AND RESPONSIBILITIES OF EACH:

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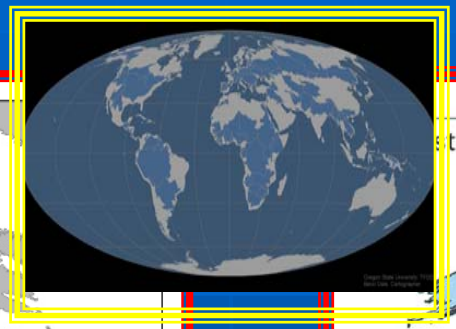
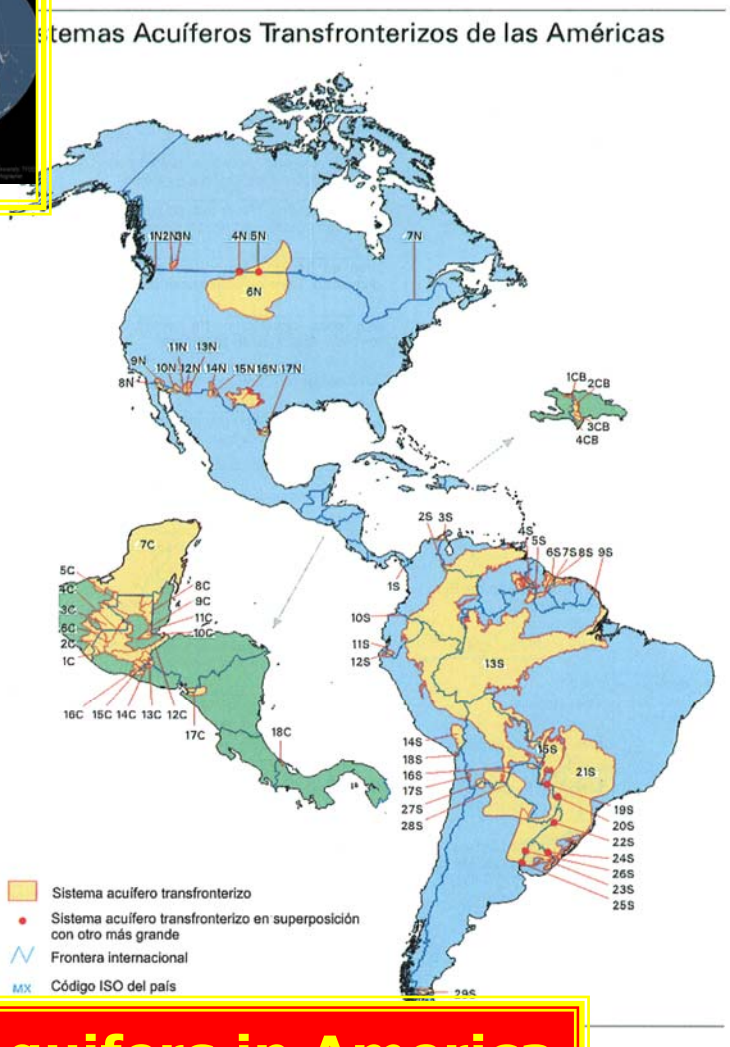
- **A clear legal framework** must specify,
  in each country, the rights and obligations,
  the possible levels of decentralization,
  the institutional responsibilities
  of the different stakeholders,
  the processes and means needed
  for good water governance,

TWO HUNDRED AND SEVENTY SIX RIVERS OR LAKES AND HUNDREDS OF AQUIFERS ARE TRANSBOUNDARY ONES





Transboundary rivers an aquifers in America

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Implementation of the UN Convention for the international water courses management in Europe – HELSINKY 1992

Building the data administration and sharing capacities of the national and local Authorities involved in 2 pilot basins, by using methodologies that can be replicated in other transboundary basins of the region.

www.unece.org

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Implementation of
the European Water Framework Directive
in the 27 countries
of the enlarged European Union,
as well as in the candidate countries for accession,
is a major milestone for promoting the principles
of good governance advocated by INBO.

Directive 2000/60/EC of 23 October 2000

establishing a framework for the Community action in the field of water policy.

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INBO initiatives are open
to your participation :
your inputs are welcome !

http://www.inbo-news.org

For developing and strengthening
basin organizations over the world

IF WE ARE NOT ABLE TO MOBILIZE ENOUGH MONEY, WE SHALL NOT HAVE THE FRESH WATER WE NEED!

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THANK YOU FOR YOUR ATTENTION!

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mail: inbo@wanadoo.fr

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Réseau International des Organismes de Bassin

International Network of Basin Organizations

Red Internacional de Organismos de Cuenca

الشبكة الدولية لهيئات الأحواض