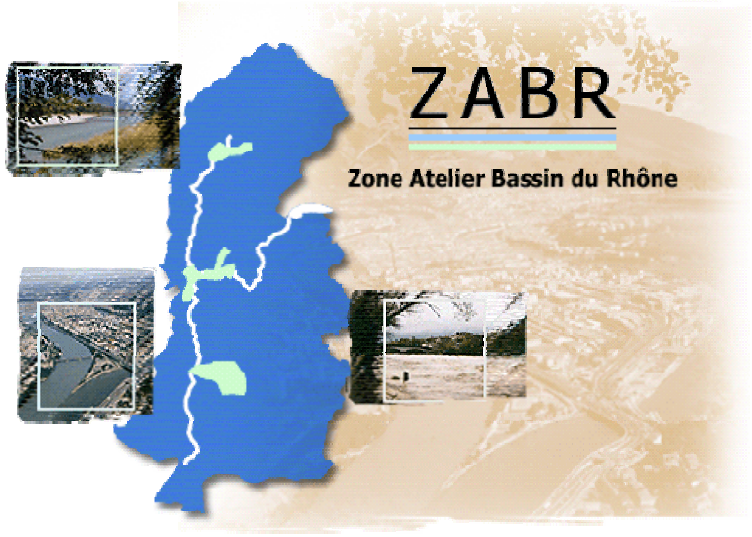
A French Long Term Ecological Research Basin:

The Rhone Basin



Bernard Montuelle (Research Director, INRA)
Pierre Marmonier (Professor, Univ Lyon I)
} Presidents

Anne Clémens - Head

LTER: definition

→ Environmental Observatories in which science helps to prevent and solve environmental and social problems → anthropoecosystems

→Places for interdisciplinary effort to:
- detect changes,
- understand the basis and impacts on socio-ecological systems,
- come up with tenable solutions

by:
- analysing the ecological patterns,
- understanding processes and phenomena over long temporal and large spatial pattern

中国生态系统研究网络
Chinese Ecosystem Research Network
观测 研究 示范

http://www.cern.ac.cn/0index/index.asp

The US Long Term Ecological Research Network

http://www.lternet.edu/

http://www.lter-europe.net/

LTER europe

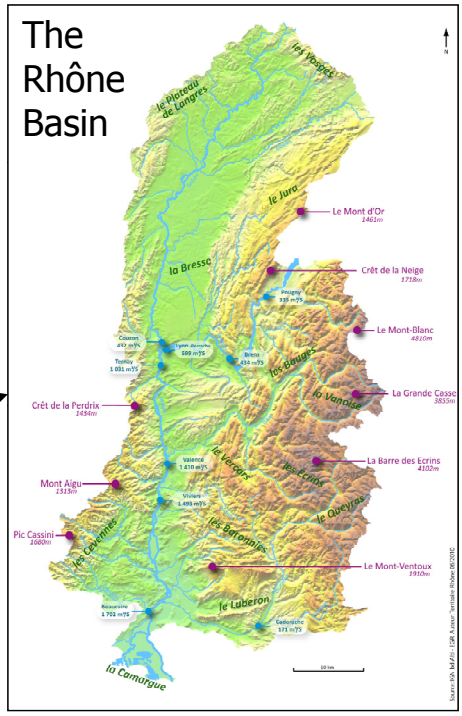
http://ilternet.edu/

ILTER

The Rhone Basin as a Long Term Ecological Research Site

One of the 8 LTER

The Rhône Basin



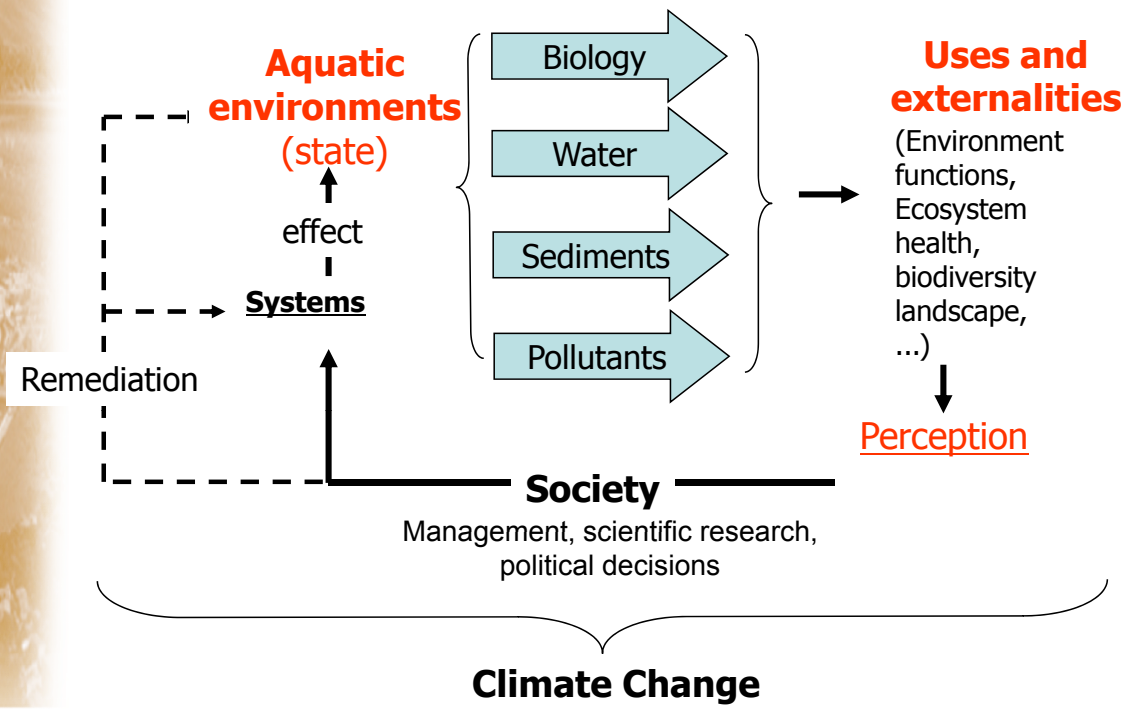
A contrasted basin:
From 4800 m to sea level
From campaign to urban and industrial areas
From nival regime to mediteranean regime
From natural to highly channelized rivers

Surface : 95 500 km²
Length : 530 km
11 main tributaries
Flow at outlet: 1 700 m³/s
(from 580 to 11 300 m³/s)

An Observatory of the Rhone Basin hydrosystems

Main Topic: studying the interactions between riverine ecosystems, the societies that develop on the watershed and their effects at the Rhone Basin level.

→ A global scientific pattern



An Observatory of the Rhone Basin hydrosystems

→ 4 research axes

What are the relationships between physical habitats, hydrology, river dynamics and biodiversity? What are the management actions and their consequences on environment?

Fluxes, shapes, habitats, biocenosis

Opinion of citizens about remediation decisions or of pollution consequences

Social studies of the river and governing

Pollutant fluxes, ecotoxicology, ecosystems

Climate Changes and water ressources

How climat change impact water ressources? (changes in the relationship rains-rivers flow, hydrological events, flooding risks)

How cocktails of contaminants impaire aquatic enviroments and biodiversity? How assessing environmental risks ?

A geographic location of scientific questions: the working sites

- 2: CC and ressources
- 3: Physics - Biology
- 4: Chemistry - Biology
- 1: Sociology

Ardière river

Riverine Wetlands

Field Observatory Urban Hydrology (OTHU)

Alpine Lakes Observatory

Arc-Isère rivers

Rhône Sediments Observatory

Rhône Corridor

Drôme river

LTER Rhone Basin: some data

A scientific network

- 14 Public Institutes or Universities
- 188 scientist involved (= 83 full time)

Connected with managers and stakeholders

(governmental and paragovernmental)

National and Regional partnership

Global budget: from 1.7 to 3M€/year

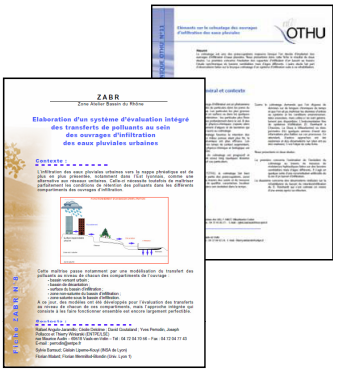
Data and metadata management : an archiving tool (GeoRepertoire) shared between the Institutes and freely accessible.

Scientific production and transfert to managers (report 2006 – 2009)

Academic production:

- 272 publications (216 in international reviews)
- 43 phD examined (40 in process)

International Congresses: 2



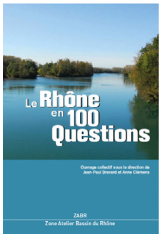
From Science to Managers and Public:

* **Workshops**: 3 to 4/years (scientists, managers, stakeholeders

***Books and technical notes editing**

« 100 Questions about the Rhone »

(Le Rhône en 100 questions) - 6000 ex.



ZABR

Zone Atelier Bassin du Rhône