



Presentation title: Impacts of climate change on water resource management
- Regional strategies and European view - (CLIMAWARE)

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Project: „Impacts of climate change on water resources management“
- Regional strategies and European view - (CLIMAWARE)

Period: 3 Years (01.09.2010 - 31.08.2013)

Objectives of the project:

- Elaboration of quantitative projections of changes in river flows and consequences such as flood frequency, drought occurrence and sectoral water uses
- Analysis of the effect of climate change on the hydromorphological reference conditions
- Definition of management rules/strategies concerning dam management and irrigation practices on different time perspectives
- Investigation of uncertainties in climate model – scenario combinations

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Partners

Germany



Department of Hydraulic Engineering and Water Resources Management,
University of Kassel



Center of Environmental Systems Research (CESR),
University of Kassel



France

Cemagref, Montpellier



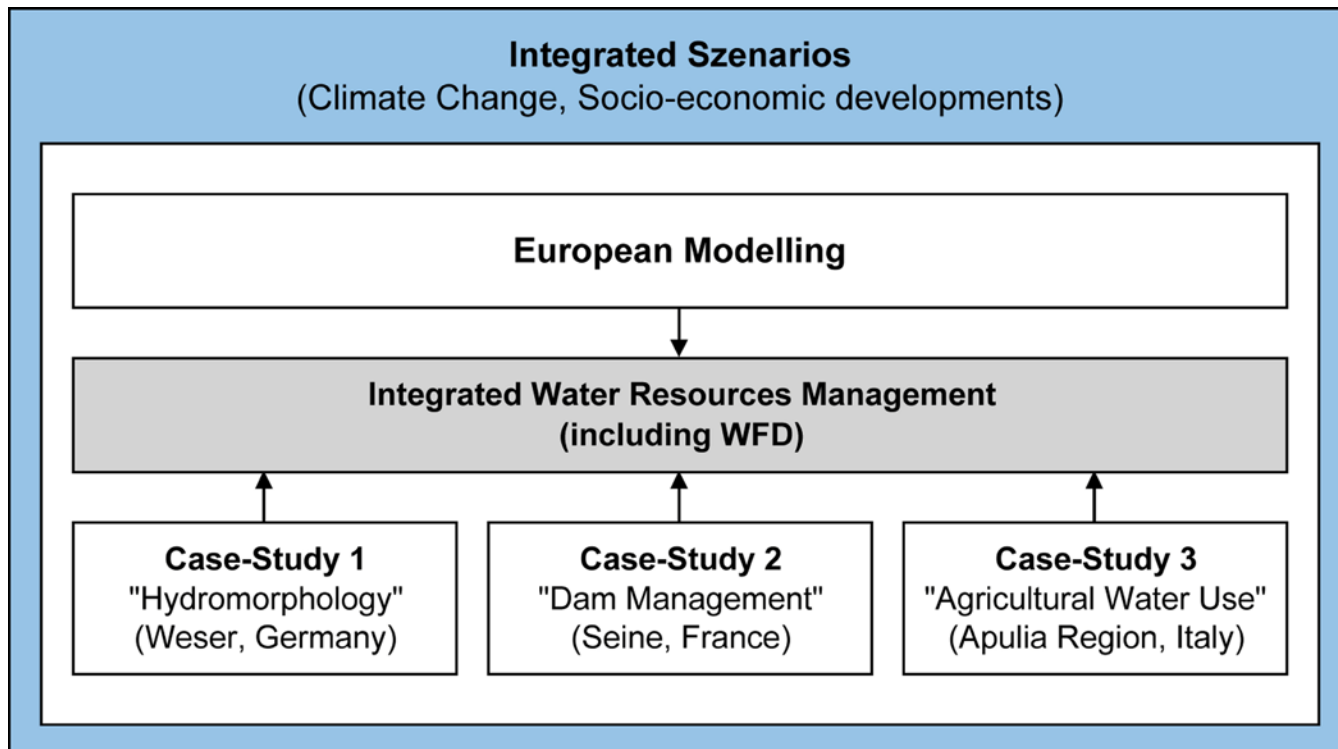
Les Grands lacs de Seine, Paris

Italy



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Valenzano

Impacts of climate change on water resource management - regional strategies and European view -



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Workplan:

WP 1: Climate scenario selection and European modelling

WP 2: Case studies

- 2.1 Hydromorphology (Germany)
- 2.2 Dam Management (France)
- 2.3 Agricultural Water Use (Italy)

WP 3: Cross-case and cross-scale comparison and integration

WP 4: Dissemination of results, knowledge transfer

WP 1: Climate scenario selection and European modelling

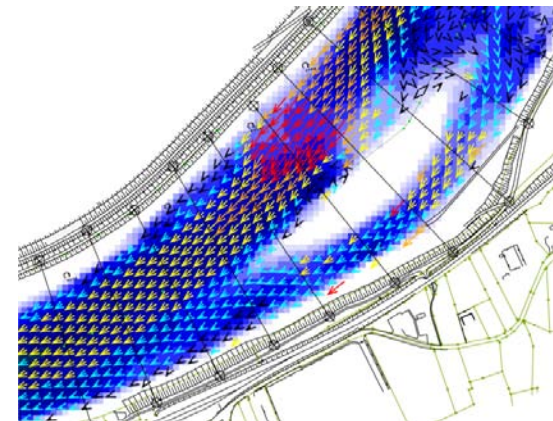
Objectives:

- selection of the integrated scenarios
 - climate scenarios
 - socio-economic scenarios
- description of the various methods of modelling and their grades of elaboration
- perform the European modelling on current and future water resources (WaterGAP)

WP 2: Case-study „Hydromorphology“

Objectives:

- investigation of the impact of climate change on the regional river systems
- investigation of indications for the adjustment and the continuity of the river basin management plans based on the WFD considering:
 - hydromorphology (renaturation)
 - hydrological regime (management of dams)
- hydraulic parameter analysis using a hydrodynamic numerical model (2D) (e. g. water levels, flow velocity, flood area and shear stresses)
- continuous development of planningtools and methodical approaches
- participation of practice partners and stakeholders



WP 2: Case-study „Dam Management“

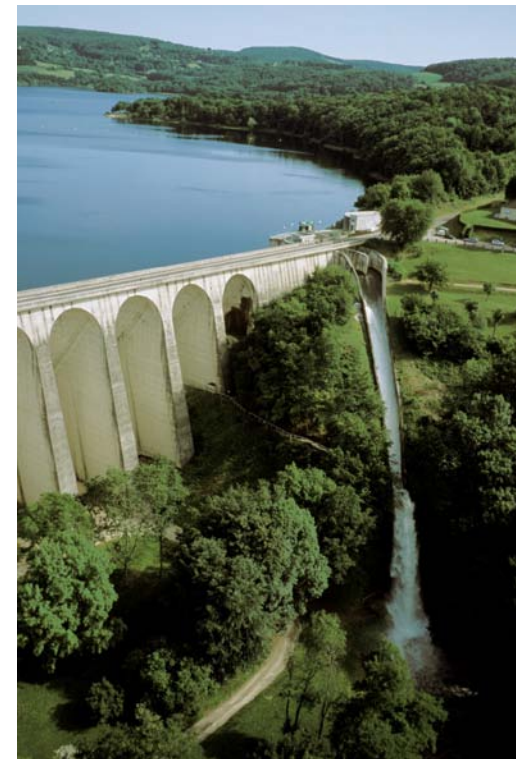
Objectives:

- evaluate the impact of climate change on the management of the IIBRBS reservoirs in 2020, 2050 and 2100
 - Short-term: adapt the water rights
 - Mid-term: adapt the water management rules with the existing infrastructure
 - Long-term: create new reservoirs to ensure sustained low-flows in the Seine river
- forecast of severe low-flows
- design low-flows management rules for the Seine river and its main tributaries (including the stakeholders)

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WP 2: Case-study „Agricultural Water Use“

Objectives:

- achievement of a more sustainable balance between water demand and water availability
- development of an integrated hydrological-economic model focused on the Apulia region
 - the hydrological model allows to assess the crop water requirement and the water availability (surface and groundwater)
 - the economic model allows to simulate the real farmers' decision process on land crop allocation and irrigation level
- results will be obtained for the actual conditions and under different scenarios of climate change

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WP 3: Cross-case and cross-scale comparison and integration

- description of the various methods of modelling and their grades of elaboration
- comparison of the hydrological modelling
- comparison of the steering tools
- comparison of the results of the case studies and the European modelling (results of modelling, adaption advices, ...)

WP 4: Dissemination of results, knowledge transfer

- participation of practice partners and stakeholders
Grands Lac de Seine -> project partner and practice partner (operator of dams)
- conferences with regional and transnational audience
- facilitation of the communication, collaboration and coordination between the partners

Thank you for your attention!

