



Fact sheet N°6

Tool

Conducting a retrospective and prospective study of water resources



Context

This white paper is a methodological guide written in the style of “Un livre dont Vous êtes le héros” (a book in which you are the hero), to encourage interactivity.

Referent

INRAE is the leader of the LIFE Eau&Climat project for the action: “Strengthening exchanges between managers and researchers”.

INRAE

Description

This white paper provides a framework for assessing past and future changes in water resources in their natural dimension. It aims to evaluate the impact of climate on hydrology, both in the past and in the future.

This document builds upon existing guidance, particularly **the Diagnosis of vulnerabilities to climate change for local water management (see fact sheet n°1)**, which was developed as part of the LIFE Eau&Climat project.

Warnings for the adventurer

- This book is all about natural hydrology.
- This book is not a guide to predicting future anthropogenic flows.
- This book and the recommendations it contains are continually updated to keep pace with developments in scientific knowledge and the regulatory environment.

For whom ?

Any public or private body in a territory (and engineering offices)

To find out more



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Method

1 Define the object of the quest

This first part consists of getting to know the institutional context and defining the context of the specific study to be carried out. It is based on the variety of studies carried out as part of the LIFE Eau&Climat project.

2 Preparing your equipment

— **Identify existing knowledge:** define the territory and the externalities of the system under consideration. List the knowledge portals and studies already carried out.

— **Collect the data:** identify the best climate and hydrological datasets to answer the questions posed.

— **Identify available hydrological models:** be aware of the limitations and diversity of hydrological models and the availability of existing simulations.

3 Read the Explore2 grimoire

Understand the methodology used by the Explore2 project to produce climate and hydrological projections for France, and become familiar with all the hydrological products made available.

5 Mission two: shaping the future of water resources

— **Understand the future climate in France:** visualise and use the climate projections available on the “DRIAS - Les futurs du Climat” portal.

— **Understand the future hydrology of your region:** take stock of what you know about the region, and analyse and use hydrological projections from the “DRIAS-eau” portal.

4 Mission one: tracking past trends in water resources

— **Analysing and calculating trends:** taking into account existing knowledge on climate and hydrology (Climat HD, MAKHO) and integrating methodological elements for conducting a trend study.

— **Carrying out or using hydrological modelling:** asking the essential questions: When and why? By whom and for whom? using examples from the LIFE Eau&Climat project, and selecting Explore2 hydrological projections.



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