



HAL
open science

Enhancing knowledge on long term hydro-social trajectories

Fabienne Errero Brancato, Juliette Cerceau, Christelle Gramaglia, Guillaume Junqua, Patrick Lachassagne

► **To cite this version:**

Fabienne Errero Brancato, Juliette Cerceau, Christelle Gramaglia, Guillaume Junqua, Patrick Lachassagne. Enhancing knowledge on long term hydro-social trajectories. IS RIVERS 2022 - Integrative Sciences: Recherches et Actions, Jul 2022, Lyon, France. , 2022. hal-03703014

HAL Id: hal-03703014

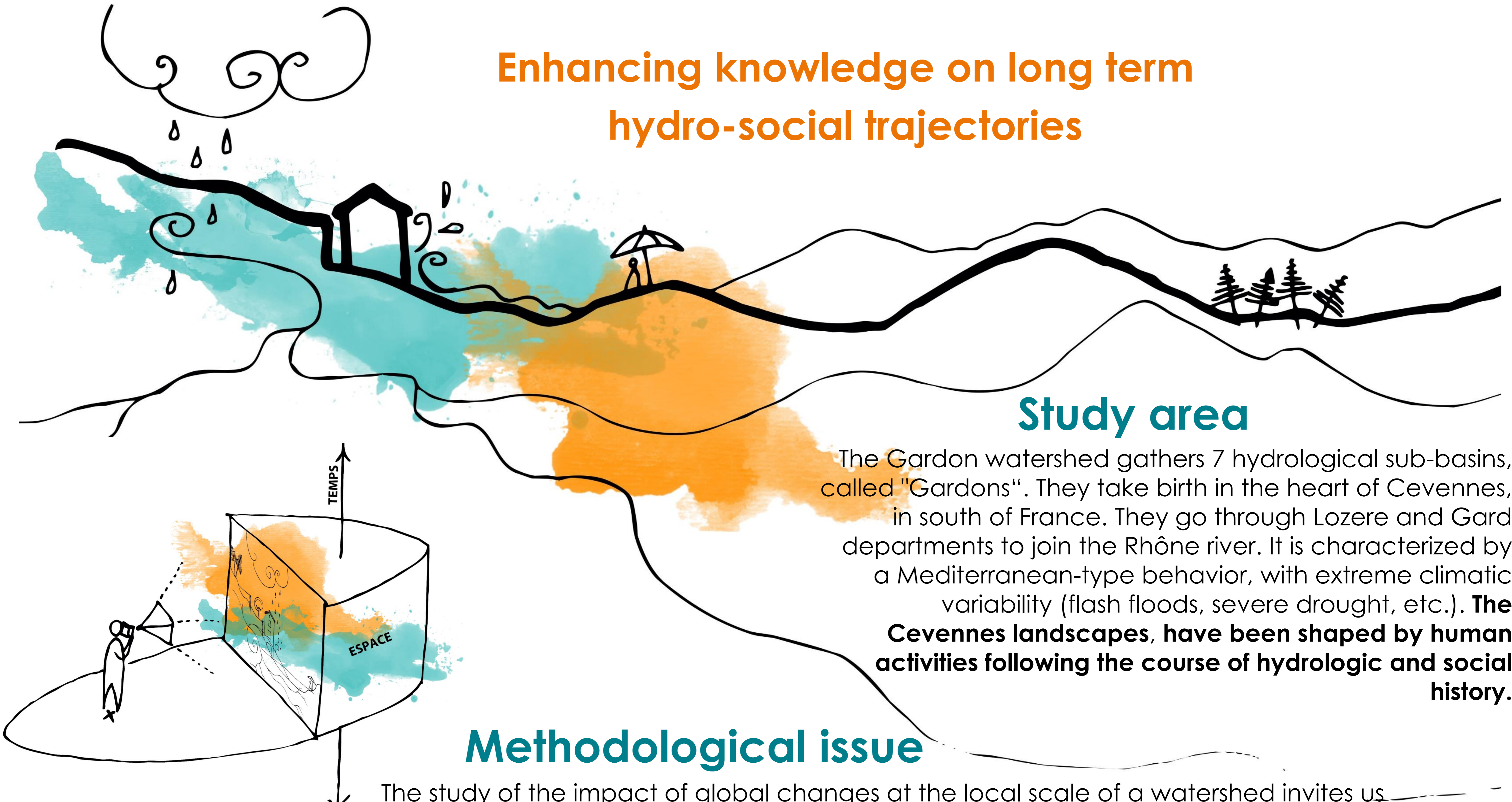
<https://imt-mines-ales.hal.science/hal-03703014v1>

Submitted on 26 Sep 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Enhancing knowledge on long term hydro-social trajectories



Study area

The Gardon watershed gathers 7 hydrological sub-basins, called "Gardons". They take birth in the heart of Cevennes, in south of France. They go through Lozere and Gard departments to join the Rhône river. It is characterized by a Mediterranean-type behavior, with extreme climatic variability (flash floods, severe drought, etc.). **The Cevennes landscapes, have been shaped by human activities following the course of hydrologic and social history.**

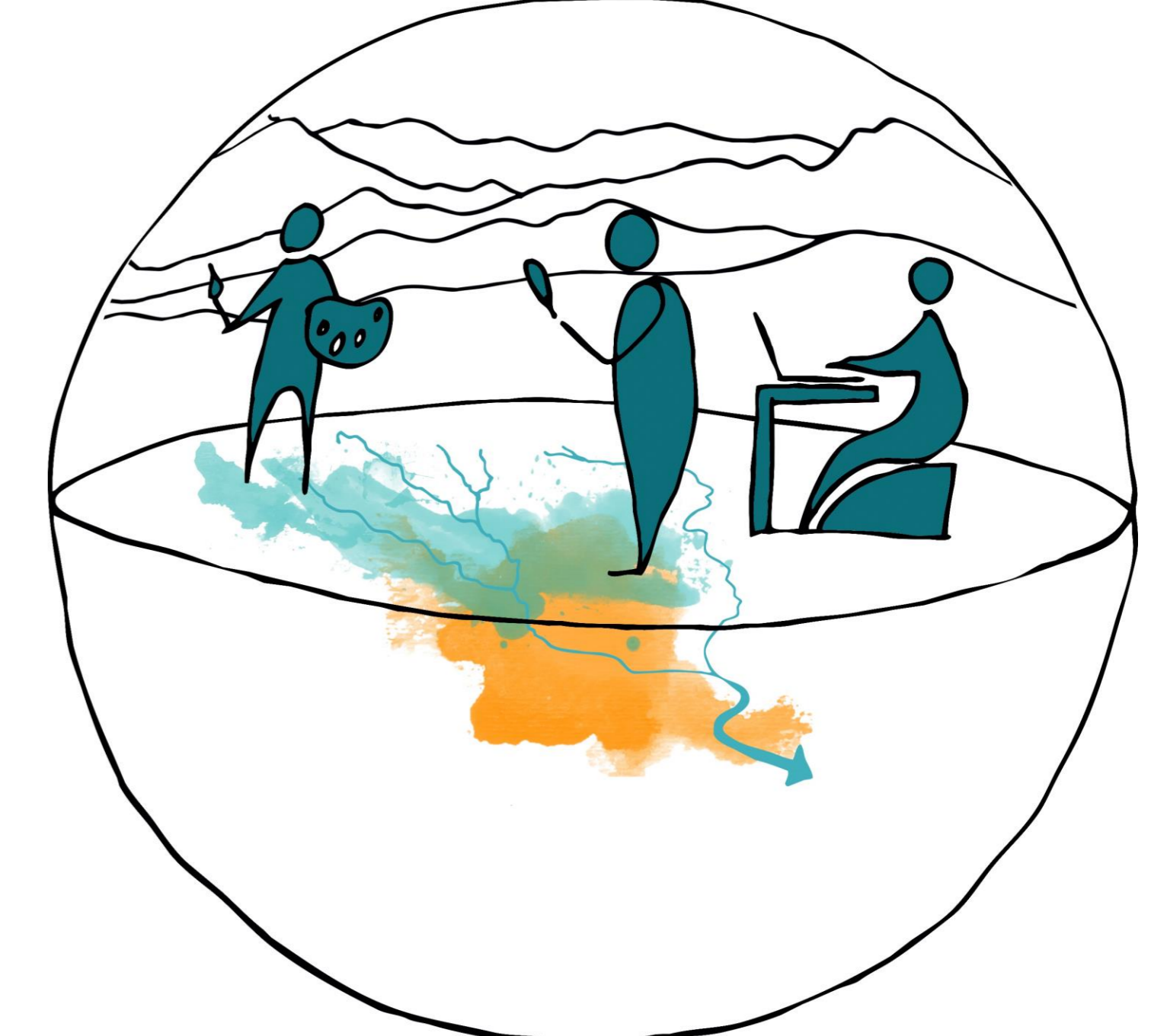
Methodological issue

The study of the impact of global changes at the local scale of a watershed invites us to analyze the spatial and temporal diversity of hydro-social trajectories, at various scales (spatial nesting) and through impermanent frames of reference (temporal nesting). It imposes the question of the **baseline** from which to observe these evolutionary dynamics. **How to choose spatial and temporal baselines for the study of long term hydro-social dynamics?**

Identification of baselines, a sampling approach

The identification of spatial and temporal baselines is similar to a **sampling approach** : it consists in the localization of data collection places likely to highlight hydro-social interactions and their evolution. The methodological approach is based on 3 stages:

- An **exploratory approach** through a series of surveys conducted with local experts (geologists, hydrologists, historians, geographers, anthropologists, architects);
- A **factual approach** through hydrological and hydrogeological characterization;
- An **in situ approach** based on sensitive impregnation, landscape observation and spontaneous encounters with inhabitants.



Sample selection

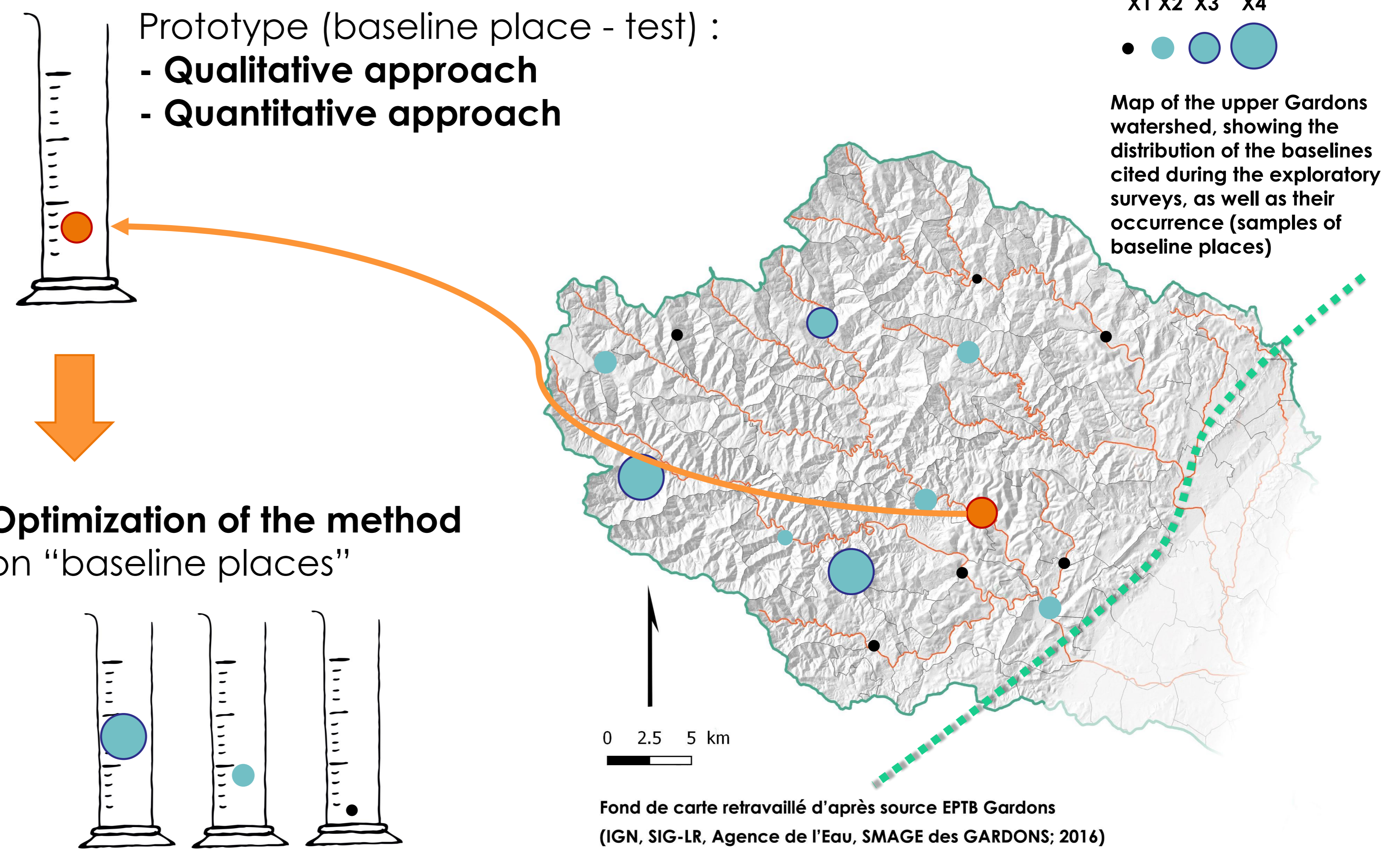
Samples of "baseline places" are identified from which to study hydrosocial trajectories.

In order to optimize the analysis method, it must be tested on a **prototype**, before being duplicated on each baseline place.

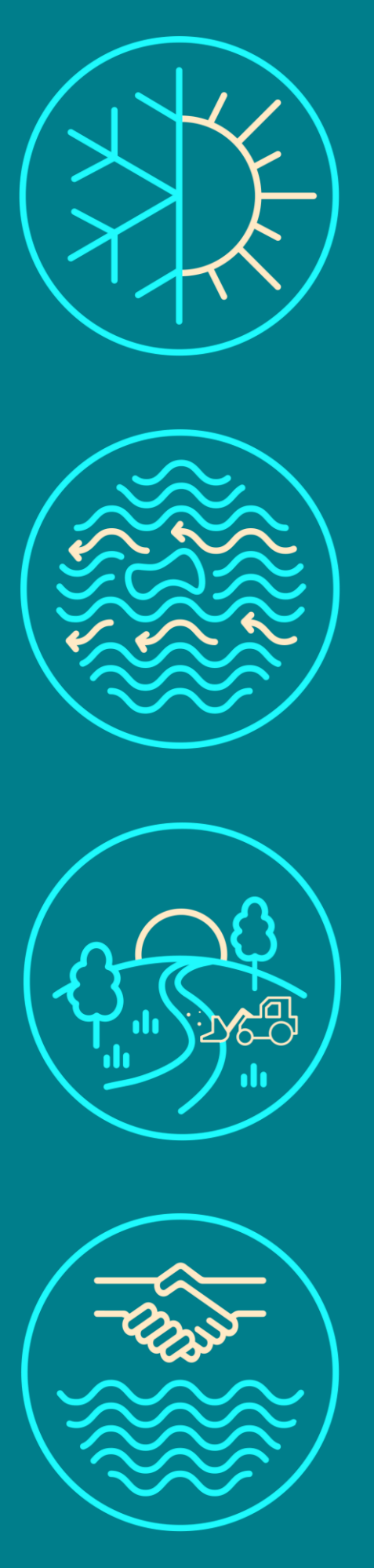
The whole process leads to a **review of the relevance of the choice of baseline places**. It also allows for the development of a transdisciplinary approach that can be replicated in other territorial contexts.

Prototype (baseline place - test) :
- Qualitative approach
- Quantitative approach

Optimization of the method on "baseline places"



Fond de carte retravaillé d'après source EPTB Gardons (IGN, SIG-LR, Agence de l'Eau, SMAGE des GARDONS; 2016)



Fabienne Errero Brancato¹, Juliette Cerceau¹, Christelle Gramaglia², Guillaume Junqua¹, Patrick Lachassagne¹
¹ HSM, Univ. Montpellier, IMT Mines Ales, IRD, CNRS, Montpellier, Ales, France
² INRAE, G-EAU, AgroParisTech, Cirad, IRD, Montpellier SupAgro, Univ Montpellier, Montpellier, France

