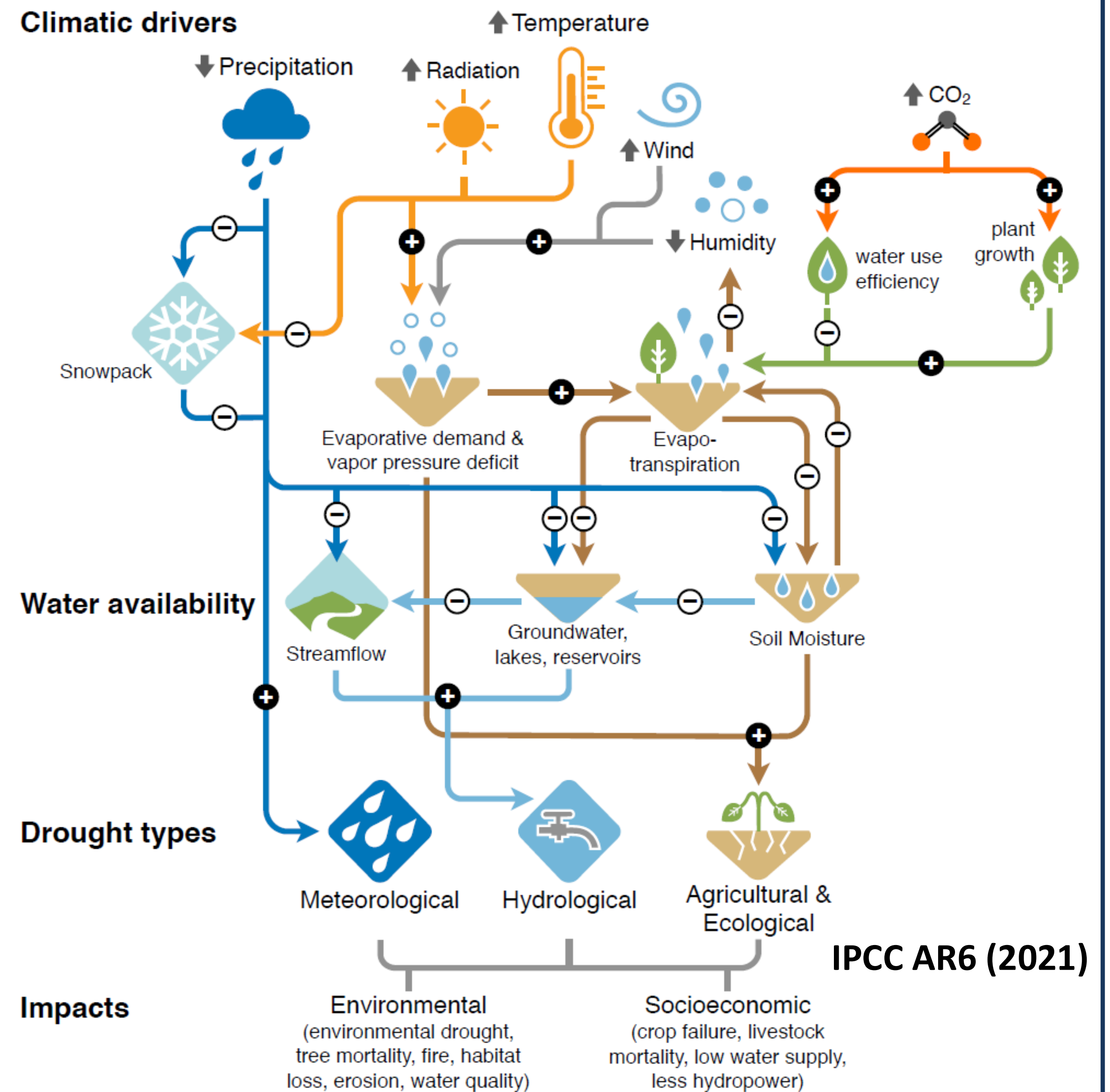


Global changes affect the water resource of karst hydrosystems. In this context, tools must be developed to answer societal challenges. To overcome this issue, the integrated management of water resources must combine field approaches with the use of numerical models which consider the interactions between the different compartments of karst hydrosystems.

## 1. Water Resource Challenges in Mediterranean Karst Systems

- In a context of global change, **climatic drivers** have un strong impact on **water availability, environmental and socioeconomic** issues
- Mediterranean regions combine **strong climatic constraints and important water needs**
- The management of water resources in Mediterranean karst hydrosystems is one of the **great challenges of our society**
- The different reservoirs of karst hydrosystems are not isolated and **must be studied as inter-connected components of the water cycle**

→ Characterize and quantify processes between compartments of karst hydrosystems to integrate them into coupled models

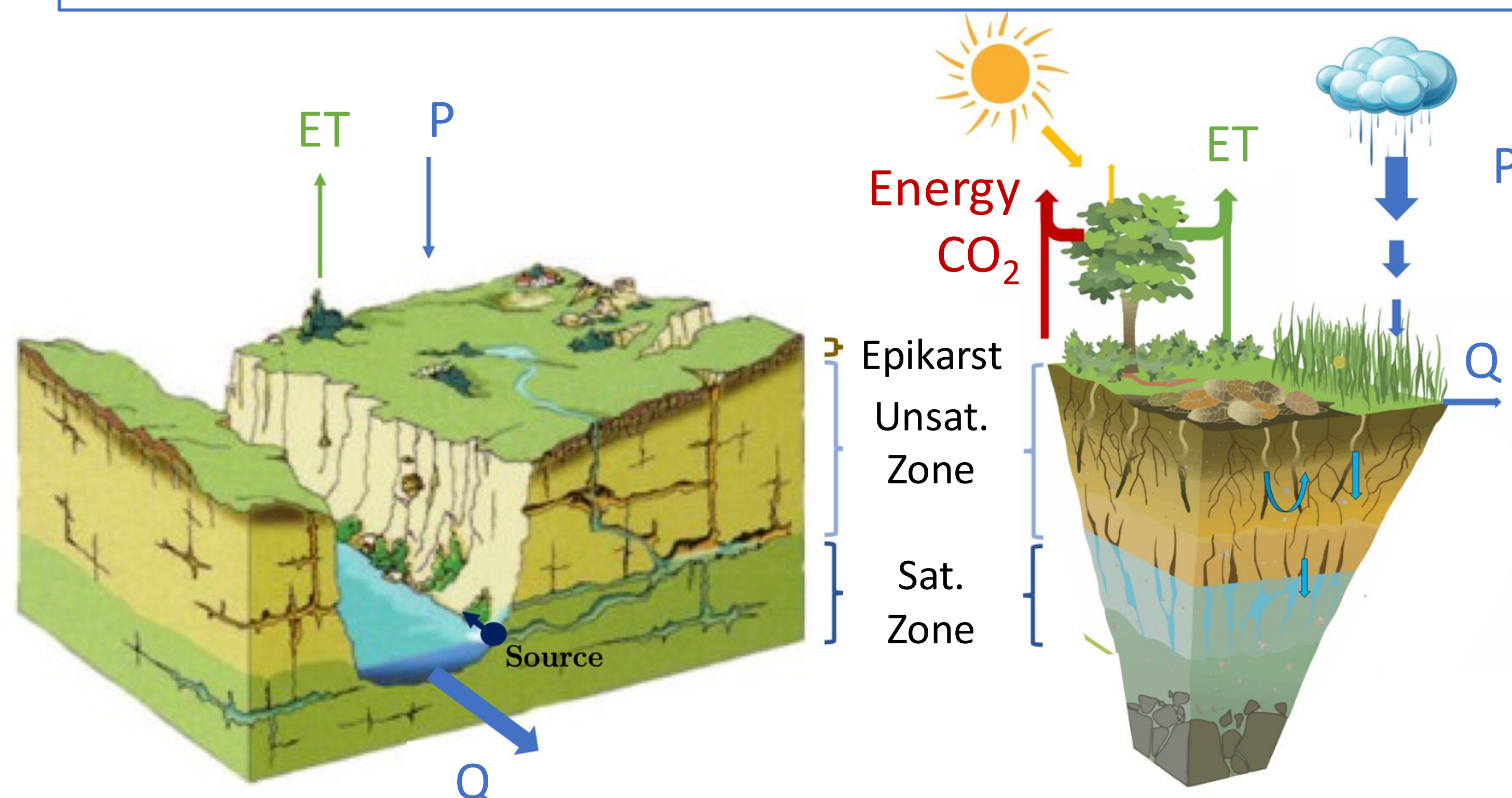


## 2. Approach: Characterization and Simulation of Karst Systems Compartments

Characterization of properties and transfers at the interfaces of hydrosystems compartments

Observatories: MEDICYSS (SNO KARST)

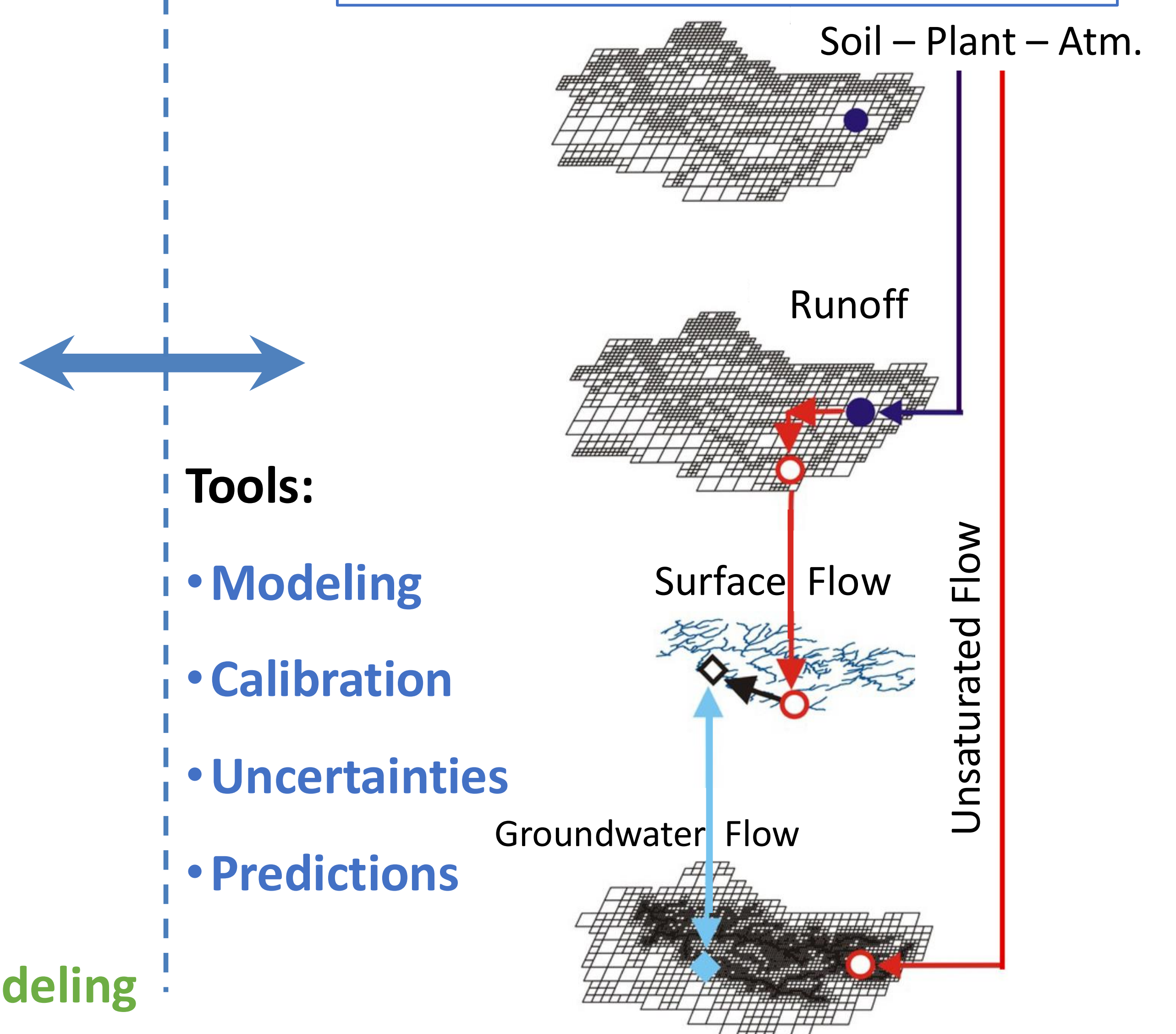
OREM3 OZCAR



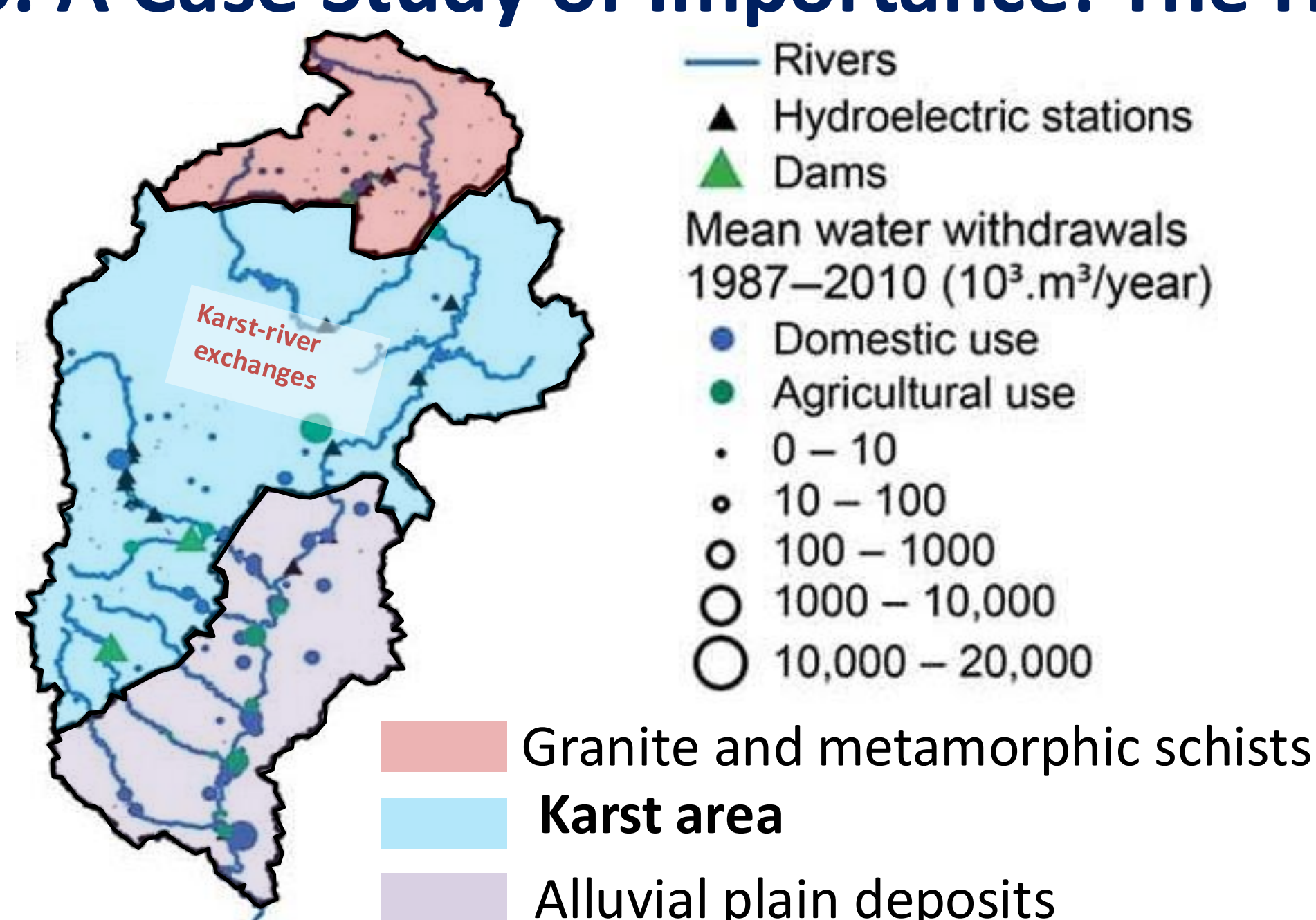
Tools:

- Hydrodynamic, Geophysics, Geochemistry, Hydro-climatology, Modeling

Integrated modeling of surface and subsurface compartments of hydrosystems



## 3. A Case Study of Importance: The Hérault Hydrosystem



- Water supply for **350 000 people**
- 3.7 M m<sup>3</sup> of surface water and 3.3 M m<sup>3</sup> of groundwater
- 75% of withdrawals depend on the karstic component
- Study site for a **large scientific community**