

Supervisor

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Host institution

BRGM
(French Geological Survey)

Keywords

- Mountain hydrogeology
- Pumping tests
- Field work
- Data science

Expected skills

- English fluency
- Hydrogeology basics
- Coding (python)
- Curiosity, autonomy
- Interest in field work

1 Context

Mountain ranges play a vital role in the hydrological cycle of continents. On the one hand, they drain and concentrate rainfall into waterways that supply communities downstream. On the other hand, they store water in the cryosphere (glaciers and snow) or underground, releasing it slowly during periods of drought and thereby helping to maintain river flows even in the absence of precipitation. This storage role has earned mountains the nickname “water towers” of humanity.

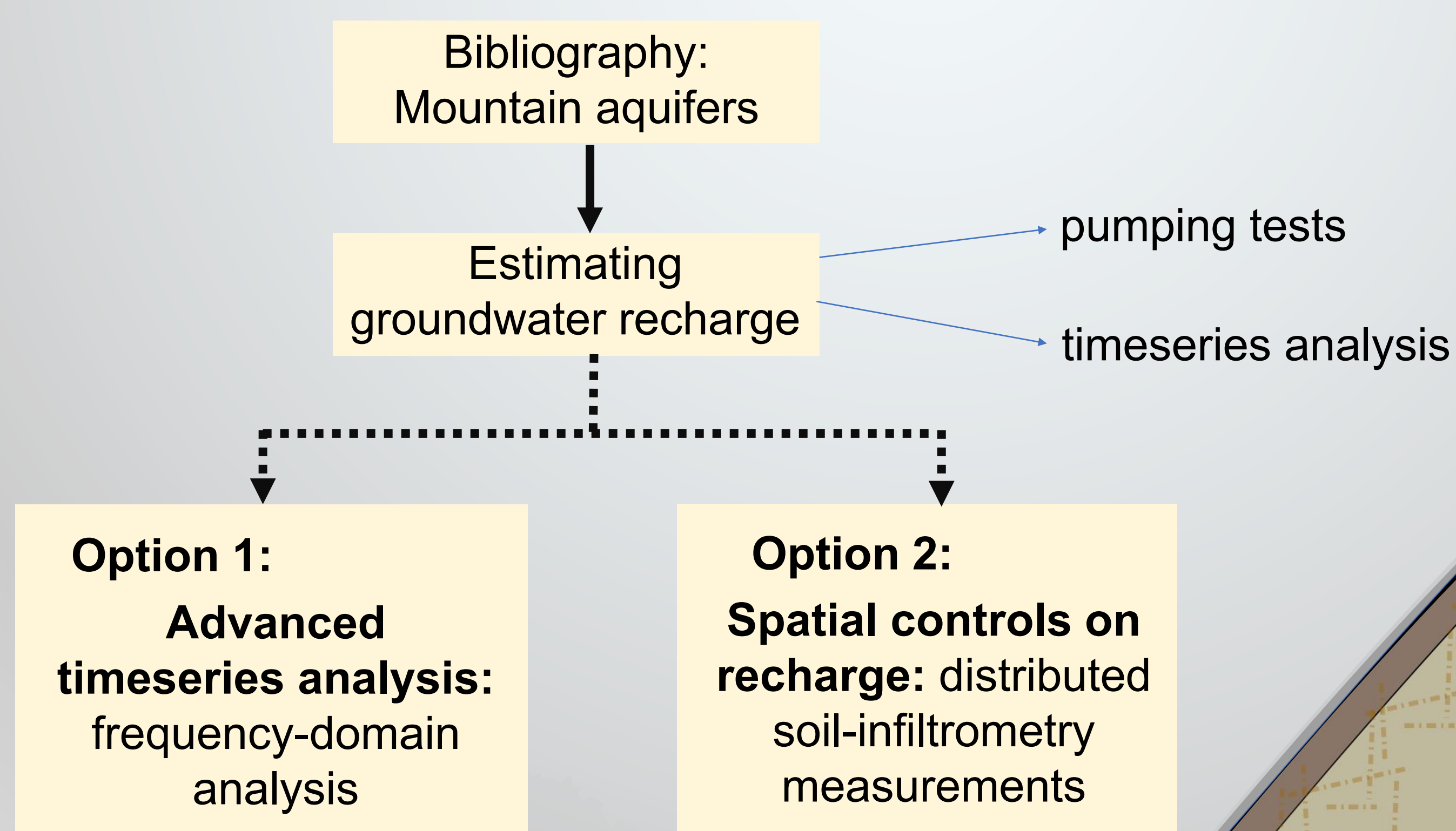
The problem:

The water storage capacity of mountain ranges is primarily attributed to the cryosphere, while the ability of mountains to allow water to infiltrate and circulate underground is largely overlooked in current hydrological models.

2 Objectives

Leverage new monitoring capabilities in a forested, mountain catchment (Quaraze catchment, Cevennes National Park), in order to conceptualize the structure, the storage and the dynamics of the subsurface water flow paths.

Internship structure:

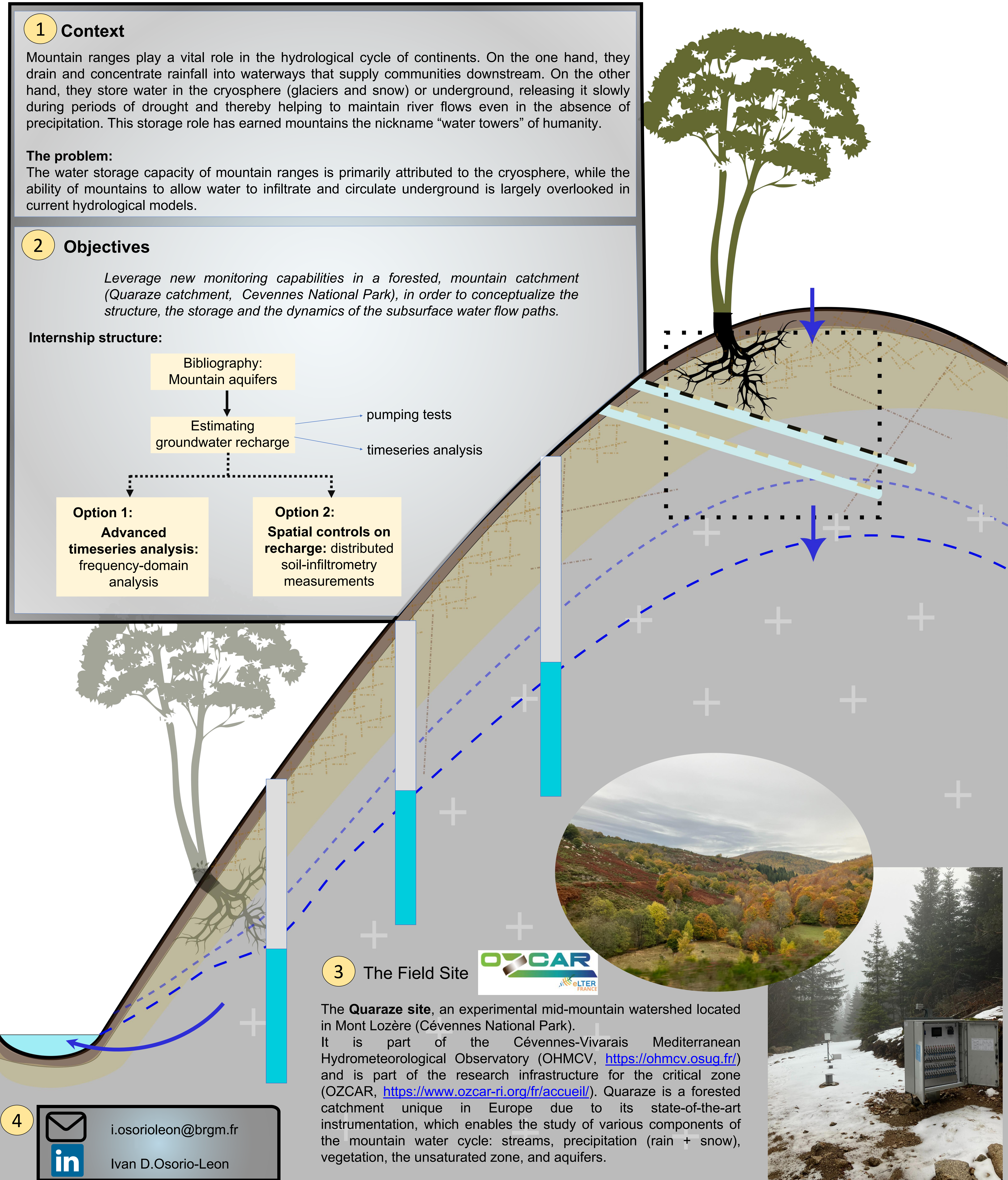


3 The Field Site



The **Quaraze site**, an experimental mid-mountain watershed located in Mont Lozère (Cévennes National Park).

It is part of the Cévennes-Vivarais Mediterranean Hydrometeorological Observatory (OHMCV, <https://ohmcv.osug.fr/>) and is part of the research infrastructure for the critical zone (OZCAR, <https://www.ozcar-ri.org/fr/accueil/>). Quaraze is a forested catchment unique in Europe due to its state-of-the-art instrumentation, which enables the study of various components of the mountain water cycle: streams, precipitation (rain + snow), vegetation, the unsaturated zone, and aquifers.



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