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Tutor

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Your role

Exhaustive **review** of the literature on flow intermittence modelling on small streams

Calibration and **validation** of a new model predicting intermittent flow occurrence at day and hour scales.

Inter•disciplinary team



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Ecohydrology

Data science

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Landscape ecology

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Agroecology and hydrogeology

Modelling and predicting intermittent flow in small streams of cultivated / riparian head catchments



LISAH

Context

Climate change is exacerbating extreme droughts and consequently the intermittence of flows in streams. The understanding and modelling of intermittent flow frequency is still a challenge, especially on head catchment with low flows, where riparian vegetation and aquifer

recharge play a major role. **Intermittent flows in small natural and anthropogenic streams may disrupt the biodiversity** on these specific and important aquatic ecosystems.

Issues

The understanding and **modelling of intermittent flow** from continuous field observation is essential to predict the intermittent flow in small streams in both, ongoing and future climates scenarios.

Expected results

International state of the art

Calibration and **validation of a model chain** mixing climate, phenological, hydrological and hydrogeological data [Gavelle 2026] on a two years series with additive field observations on cultivated head catchments in Eastern Occitania.

Bibliography

Gavelle, M. (2026). Evaluation par modélisation conceptuelle de l'intermittence du Valat de Solan (30) et de l'effet d'aménagements hydro-agroécologiques sur le soutien d'étiage. Master thesis, AgroParisTech.
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