



Switches between dry and non-dry flowing regimes in an intermittent river influenced by karstic springs.

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Many small Mediterranean rivers are influenced by karstic intermittent springs and show a dual behaviour.

When the springs are not flowing, the river remains intermittent both in space and time. The whole river course can dry up, except in the reaches with industrial or domestic effluent inputs: the connectivity between the upstream and the downstream part is very weak. During rainfall events, flash floods are generated by surface runoff and are partly transferred to the outlet: the river is kept discontinuously filled with water.

On the contrary, when karstic springs are active, the river system is fully flowing, even out of rainfall events. Flood events are completely transferred to the outlet and recession periods have long duration.

In this context, this study aims to characterize the switches between dry and non-dry flowing regimes in the Vène River (catchment area of 67km²; South of France).

The river is fed by three karstic springs: the first (45 m a.s.l.) and second (12 m a.s.l.) are located along the main course respectively at the river spring and at one km upstream from the outlet; the third one (35 m a.s.l.) feeds a tributary. The total catchment area of these springs is estimated to be 110 km², in which more than 60% is located outside the topographic watershed.

Four rain gauges are set on the catchment area. Three stream gauges control discharge and water conductivity at the river spring (K), the outlet (V) and the tributary (O). Data have been recorded since 2003 and will be processed: (1) to determine the ex-

ternal factors controlling the start up of the karstic springs, such as antecedent rainfall indexes, cumulative rainfall amount, rainfall event characteristics, . . . ; (2) to compare and characterize the dynamic behaviour of the three springs; (3) to evaluate the cyclic succession of the dry and non-dry regimes for the Vene river at annual and inter-annual time scales.