

Advancing the science and management of European intermittent rivers and ephemeral streams

November 6 2017



Two contrasting hydrological phases of the Clauge River in temperate France during dry (top) and flowing phases (bottom). Credit: Bertrand Launay

Intermittent rivers and ephemeral streams (IRES) are waterways that cease to flow and sometimes dry. However, there is much left to learn about them, including their occurrence in the landscape, ecology,

economic and societal values and incredible biodiversity. For efficient and adequate management and protection actions, these knowledge gaps need to be closed sooner rather than later.

In a call for a better understanding of IRES and their vital role in nature, a large international team, led by Dr. Thibault Datry, a freshwater ecologist working at IRSTEA, Lyon, France, has initiated the "Science and Management of Intermittent Rivers and Ephemeral Streams (SMIRES)" project. Their grant proposal, as approved for funding by the European framework COST, is published in the open science journal *Research Ideas and Outcomes* (RIO).

This [COST Action](#) brings together hydrologists, biogeochemists, ecologists, modellers, environmental economists, social researchers and stakeholders from 14 countries from around the continent. The aim of the interdisciplinary team is to develop a research network for synthesising the fragmented knowledge on IRES. In turn, improved understanding of IRES will translate to a science-based, sustainable management of river networks.

Along with networking between scientists and stakeholders, the Action will accommodate a whole set of good practices, including data sharing, technology development and citizen science.



The Calavon River, a Mediterranean IRES, during flowing (left) and dry phases (right). Credit: Bertrand Launay

Amongst the goals of the project are the creation of two meta-databases providing open data about IRES research activities and flow stations with intermittent flows; a proposal for novel indicators and technologies to assess changes and associated ecological responses in IRES; and the development of a European-scale network of citizen scientists to monitor, locate and map river flow states with the help of smartphone technology.

Having been ignored in conservation policies and initiatives, IRES are being degraded at an alarming rate. Water extraction, flood harvesting, river impoundment, channel modification, land-use change and mining are only part of the threats faced by IRES across Europe. In many areas, they are even used as disposal areas. For others, they are channelled

underground or connected to larger water bodies as a means of [flow](#) augmentation, which could potentially lead to the spread of invasive species.

The researchers point out that lack of recognition and understanding lead to the rapid degradation of IRES.

More information: Thibault Datry et al, Science and Management of Intermittent Rivers and Ephemeral Streams (SMIRES), *Research Ideas and Outcomes* (2017). [DOI: 10.3897/rio.3.e21774](https://doi.org/10.3897/rio.3.e21774)

Provided by Pensoft Publishers

Citation: Advancing the science and management of European intermittent rivers and ephemeral streams (2017, November 6) retrieved 15 May 2024 from <https://phys.org/news/2017-11-advancing-science-european-intermittent-rivers.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.