



Spatial and temporal flow intermittency in fluvial ecosystems: effects on structure, function and ecosystem services

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Description of Project

Climate and global change affect the availability of water resources for human needs, as well as for river ecosystems needs, which are affected by the increasing frequency and intensity of drought periods.

➤ Aim of project:

SPACESTREAM aims to understand the effects of flow intermittency on rivers, considering the effects on ecosystems and their services.

➤ Timeline of Project:

2018-2020.

Description of Project

- To understand effects of changes in the duration and timing of non-flow events, and on the location and extent of non-flowing river sections.
- To model with a mechanistic model the biophysical processes in a pilot river basin, and use the model to predict the effects of Global change-led alterations of the flow regime.
- To integrate the socio-economic dimension into a **socio-environmental model**, to estimate ecosystem services.
- To develop a **decision-support system** for river basin district authorities, to support them in the design of management actions to mitigate and/or to adapt to Global change.

Project Team

➤ Who we are

Dídac Jordà, postdoc, environmental sciences, background on geography and ecological economics.

Carme Font, postdoc, mathematician, background on modelling and statistics.

Joana Castellar, postdoc, agricultural engineer, background on green walls and sanitation.

Lluís Corominas, research scientist, environmental sciences, background on decision-support systems, and integrated management.

Sergi Sabater, professor, biologist, background on stream ecology.

Vicenç Acuña, research scientist, environmental sciences, background on stream ecology and ecosystem services.

Expected Outcomes

- 8 scientific publications, 4 of them in the first quartile of Environmental Sciences “Miscellaneous”.
- 4 oral presentations in international conferences.
- Decision-support system (DSS) for river basin district authorities to design management actions.
- Implementation of the DSS in at least 2 river basin districts, and presentation at meetings of DG Environment.

Possible Synergies with other projects

- In the approach to assemble models of different nature (probabilistic, process-based, biophysical, economic)
- In the valuation of social and economic benefits.
- In the dissemination at the EU scale, for the maximization of the impact of the projects (joint workshops at DG Environment).

What would we like to gain from today?

- Find out what the TAP is.
- Identify possible synergies with colleagues (methodological approaches, organization of special sessions, joint publications, etc).
- Identify and foster possible mechanisms to integrate ecosystem services in the daily management of freshwater ecosystems.