

## Postdoc

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In a Global Changing world flow and sediment regime are dominant actors in the modification of river catchments. The sediment regime refers to the sediment budget (amount, type and timing of sediment inputs, outputs and storage) of a river system as well as the way water and sediment interact to drive river conditions. Studies of flow and sediment regime assessing the impact of Global Change are scarce and traditionally rely on deterministic approaches. However, at any given river catchment section, a complex imprint in the spatial-temporal distribution of flow and sediment regime is observed. This project aims to model flow and sediment regime by means of machine/deep learning algorithms based on historical data and new data acquired through field campaigns.

### Responsibilities

- Datasets homogenization and curation
- Implementation and validation of machine and/or deep learning algorithms
- Statistical data analysis
- Active member of our scientific team
- Conference talks
- Write scientific publications

The project is funded by the European Research Council for a duration of three years. The start is planned for first or second semester of 2023. The salary is fixed according to the established salary level for postdoctoral personnel.

**We are looking for** a Ph.D. in Computer Science, Data Science, Machine Learning, Artificial Intelligence, Earth Science, Environmental Science, Environmental Engineering, Civil Engineering, Geography, Water Resources Engineering, Fluvial Geomorphology, or a related physical science field. The desired skills of a potential candidate should include expertise in machine/deep learning techniques and computer programming (e.g., R, Matlab, Python). Furthermore, successful candidate must have experience in collaborating within inter- and transdisciplinary teams and developing and applying inter- and transdisciplinary concepts, methods and tools. We expect good integrative skills, and high social and emotional intelligence. Fluency in English (spoken and written) is required, skills in Spanish are an asset.

The position is based at CSIC in Instituto Pirenaico de Ecología (IPE-CSIC). The research centre is located within the Zaragoza metropolitan area. Zaragoza is an enjoyable city in terms of science, culture and quality of life.

Applications should include a motivation letter and CV (including grades, diploma, publication list and two references) in electronic form as one single PDF.

The deadline for applications is 28 February 2023 or until the position is filled.

For further information, please contact: Dr. Carmelo Juez ([carmelo.juez@ipe.csic.es](mailto:carmelo.juez@ipe.csic.es))

Interested candidates should apply by emailing the required documents to Dr. Carmelo Juez ([carmelo.juez@ipe.csic.es](mailto:carmelo.juez@ipe.csic.es))