Why TRANSCEND?

Worldwide, water resources management is increasingly challenged by water scarcity and climate change, which can trigger and aggravate other ecological and socioeconomic threats via feedback loops and cascading impacts across systems.

The objective of TRANSCEND is to identify and catalyze the adoption of Transformational Adaptation Policies (TAP) to water scarcity, including innovative allocation systems and economic instruments, that are robust and adaptable to uncertainty and change, while simultaneously achieving equitable and sustainable economic growth and welfare.

TRANSCEND consortium

FOR MORE INFORMATION

https://transcend.usal.es/

TRANSCEND

Transformational and Robust AdaptatioN to water Scarcity and ClimatE chaNge under Deep uncertainty

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Funded by the European Union

TRANSCEND will develop a groundbreaking ecosystem of innovation building upon three pillars:

①

A knowledge network for stakeholder engagement and knowledge sharing

Seven knowledge networks, one per lab, will connect stakeholders and scientists with complementary competences to exchange fragmented knowledge and co-create added value by the design and implementation of Transformational Adaptation Policies (TAP).
Scenathons or "scenario marathons" are a type of serious game which will be used to foster inclusive decision-making processes and respectful debate, inspired by the Talanoa Dialogue.

②

Tap design: an actionable modeling suite to guide stakeholders in TAP design for each lab

The actionable modeling suite will first characterize the cascading uncertainties across complex socio-ecological systems and then design and assess performance of alternative TAP.
This multi-system suite will incorporate climatic, hydrologic, agricultural, and micro- and macroeconomic systems, which will be then interconnected using a modular approach. Each system will also be populated with multiple models, which will be used to evaluate the impacts of multiple scenarios and TAP.

Transcend living labs
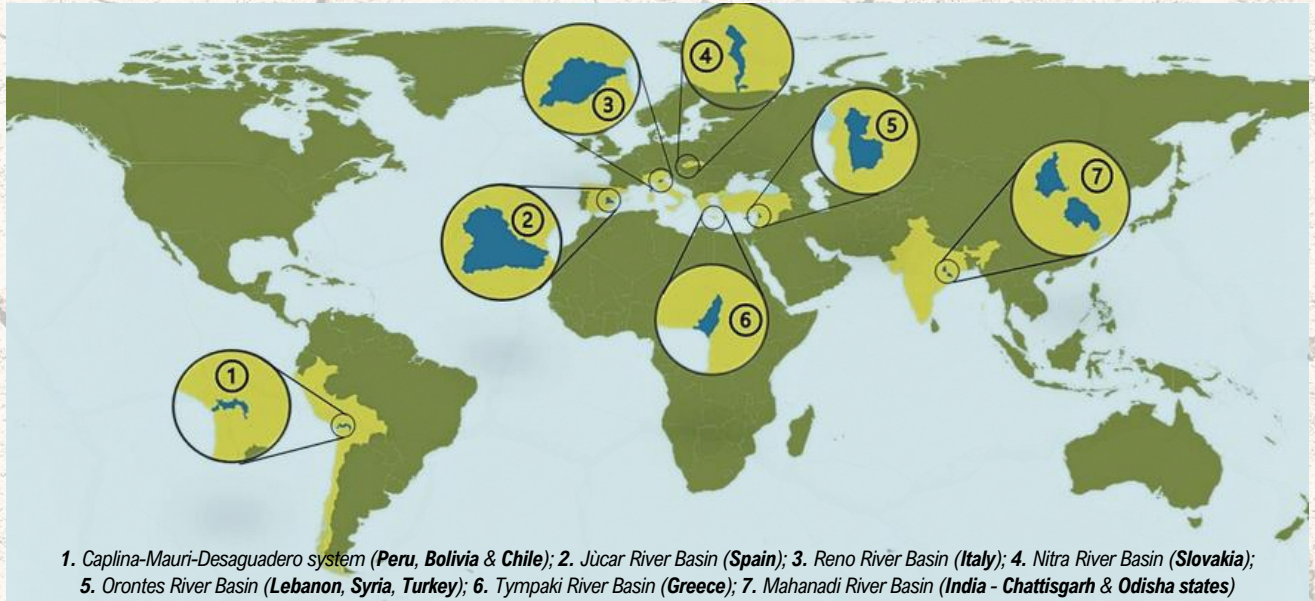
1. *Caplina-Mauri-Desaguadero system* (**Peru**, **Bolivia** & **Chile**); 2. *Jùcar River Basin* (**Spain**); 3. *Reno River Basin* (**Italy**); 4. *Nitra River Basin* (**Slovakia**); 5. *Orontes River Basin* (**Lebanon**, **Syria**, **Turkey**); 6. *Tympaki River Basin* (**Greece**); 7. *Mahanadi River Basin* (**India** - **Chattisgarh** & **Odisha states**)

Each of the 7 suite will build on the Decision Support Systems (DSS) currently used by stakeholders in each lab, so as to foster understanding, advocacy and the systematic uptake of the modeling suite and acceptance of modeling results. These DSS include WEAP, AQUATOOL, TOPKAPI, MIKE, RIBASIM and LISFLOOD, the most widely used DSS worldwide, which enhances the relevance and scalability of TRANSCEND methods and results.

③

Tap in practice: an accounting and monitoring toolbox

The toolbox developed in the Transcend project, will support stakeholders in monitoring TAP performance, enforcing rules related to water use and allocation, and triggering corrective action where TAP outcomes deviate from expectations during implementation.

This toolbox will assimilate and integrate from local in-situ monitoring systems, earth observation imagery, along with regional and socio-economic and environmental data products to track key stakeholder-defined water management indicators. This toolbox will support calibration and validation of the modeling suite and it will be customized based on the peculiarities of each living lab.
Over time, an open-source interface will be developed to enable evolution of the toolbox in response to future changes in the drivers, goals and objectives of water management policy.
As final goal of the project, the replicability of the tool will be supported in other labs worldwide.