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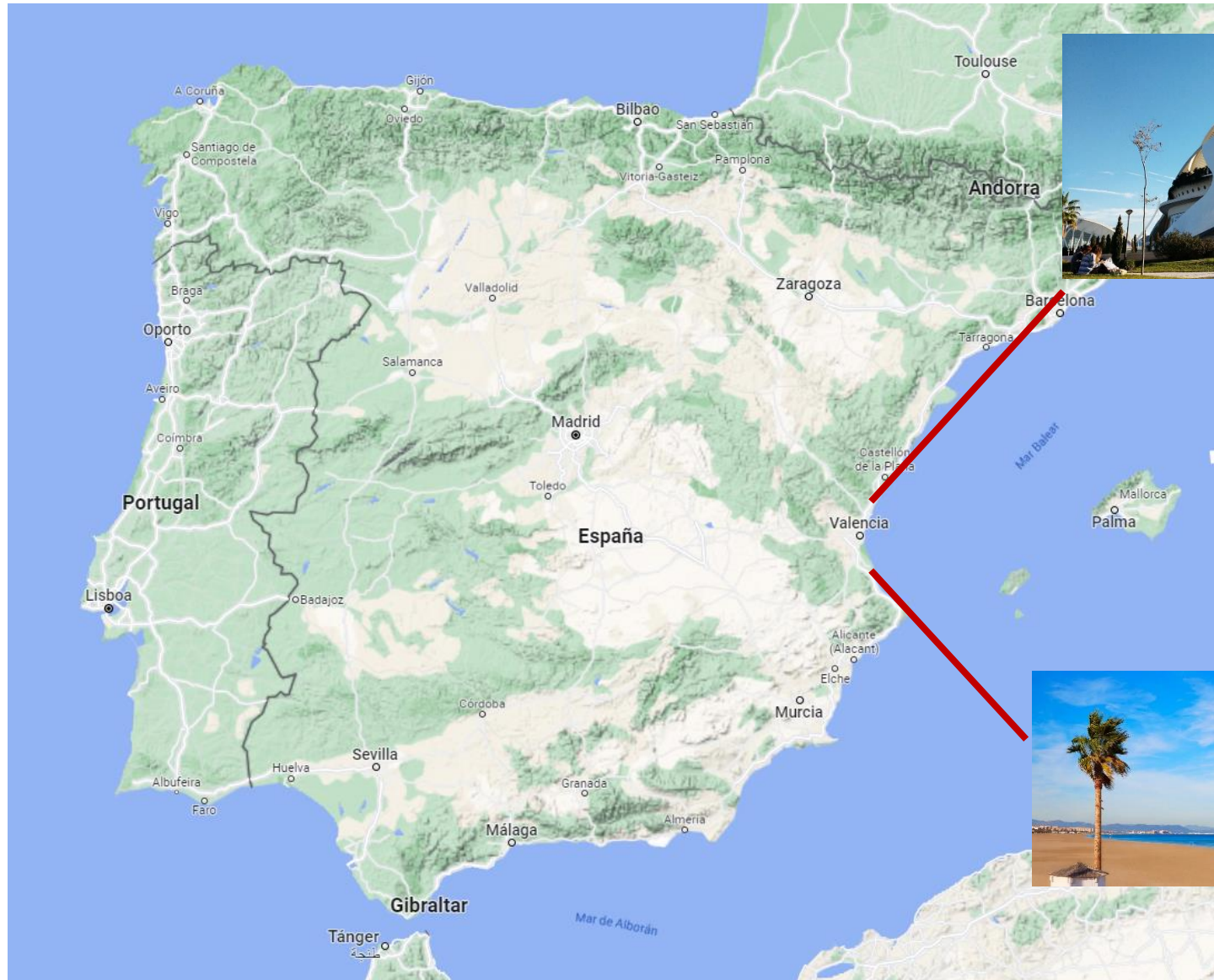
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Jucar River Basin (Spain)

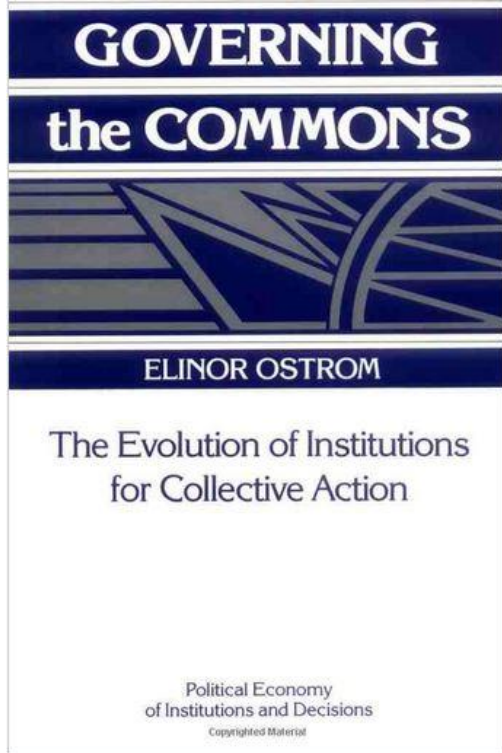
TRANSCEND— Kick-Off Meeting
Salamanca, February 2023

Manuel Pulido-Velazquez, Eulalia Gomez-Martin, Adria Rubio-Martin

Valencia, Spain

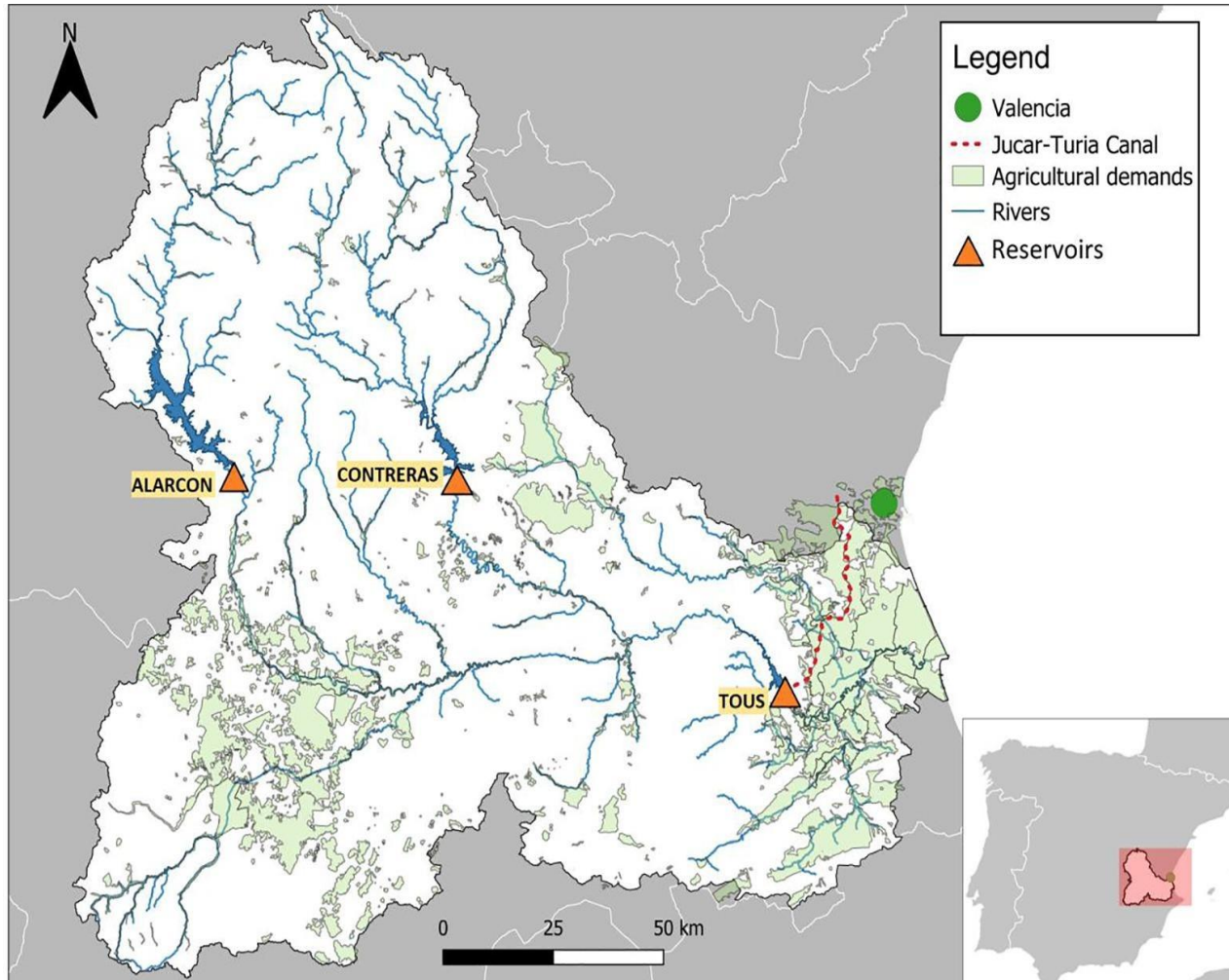


The WATER COURT ("Tribunal de las Aguas")



- Customary court since Middle Ages (10th century or even before... Roman times?)
- Institution for collective action
- Intangible cultural heritage, UNESCO (2009)

The Jucar River Basin



- Water use by sector: agriculture (88%), urban (10%) and industrial (2%).
- Delicate equilibrium between water resources and demands.
- Upper-Lower basin conflicts for water allocation.

Av surf resources	1,605 Mm ³ /year
Urban demands	190 Mm ³ /year
Agric Demands	1,403 Mm ³ /year
Industrial demands	32 Mm ³ /year
Hydropower capacity	2,373 MW + 1,092 nuclear
Environ flows	104 of 143 water bodies
Reservoir capacity	2,627 Mm ³

The Jucar River Basin - Agriculture

- Citrus and rice (lower basin), vineyards and almond trees grow in groundwater-overexploited areas (upper basin)
- Agricultural activity highly dependent on market prices
- Climate change will increase the likelihood and intensity of droughts

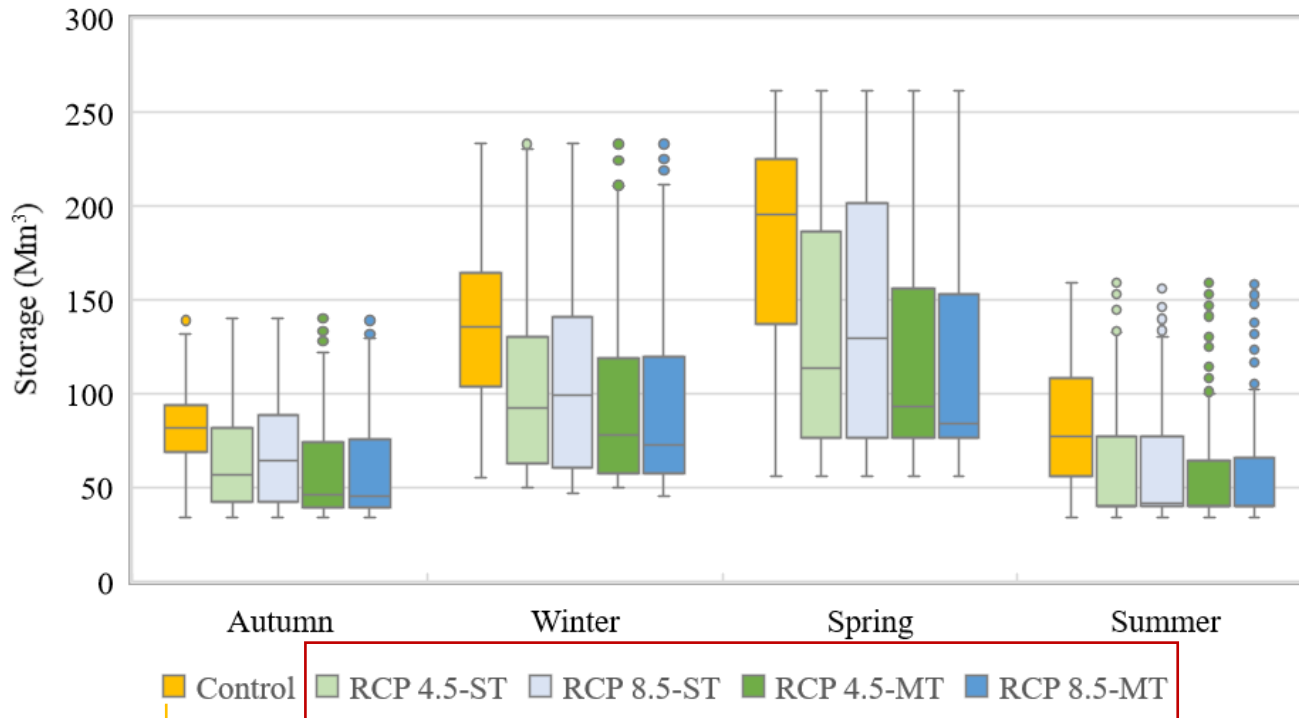


The Jucar River Basin - Ecosystems

- Iconic Spanish protected wetland l'Albufera (south of Valencia)
- Aquifer in bad qualitative and quantitative status
- Ecological flow regimes based on hydrological and habitat modelling methods for different fish species
- 18 monitoring sites in the Jucar River basin



The Jucar River Basin – Climate change



Climate change scenarios

Control period (1970-2000)

- Total water storage predicted variation ranges from **-27% to -60%** depending on the season and climate change scenario

Challenge: Developing **robust TAP** in such a **deep uncertainty** context.

The Jucar River Basin – In Search of Robust TAP



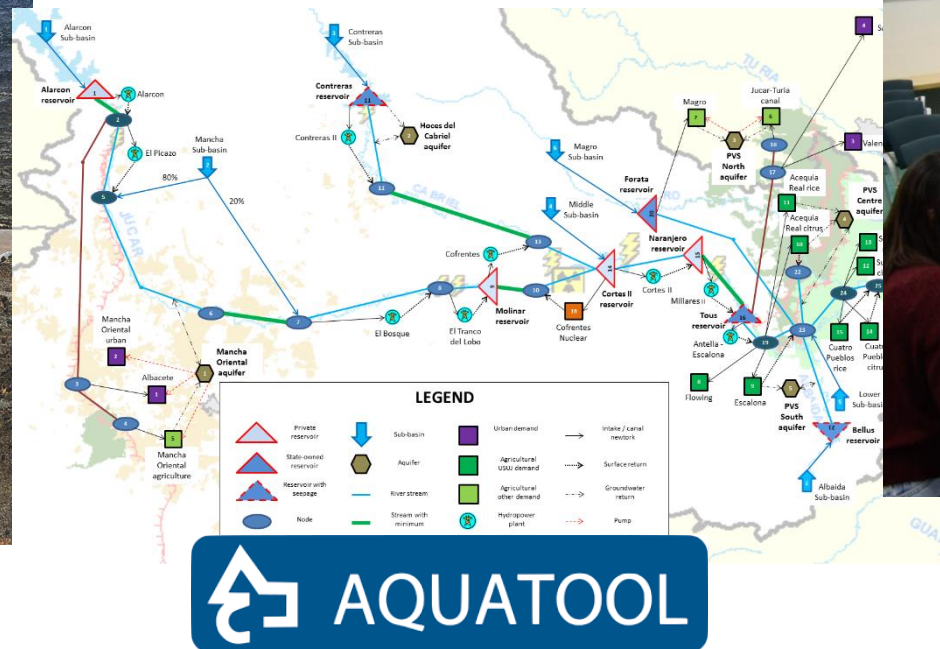
- Objective:**
- Selection of portfolios of supply-demand measures / adaptation to climate-global change.
 - Integrating the objectives of economic efficiency, environmental sustainability, acceptability & robustness at the basin scale



EU – Climate Proof RBMP

The Jucar River Basin – In Search of Robust TAP

- Economic instruments
- Water allocation systems
- Digital technologies
- Non-conventional water sources
- Nature-based solutions
- Resilience instruments



The Jucar River Basin – Workshops and dialogues



- In a deep uncertainty context, we must make sure all valuable information is collected.
- Robust TAP are those that are understood and accepted by stakeholders.



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Thank you! Questions?

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