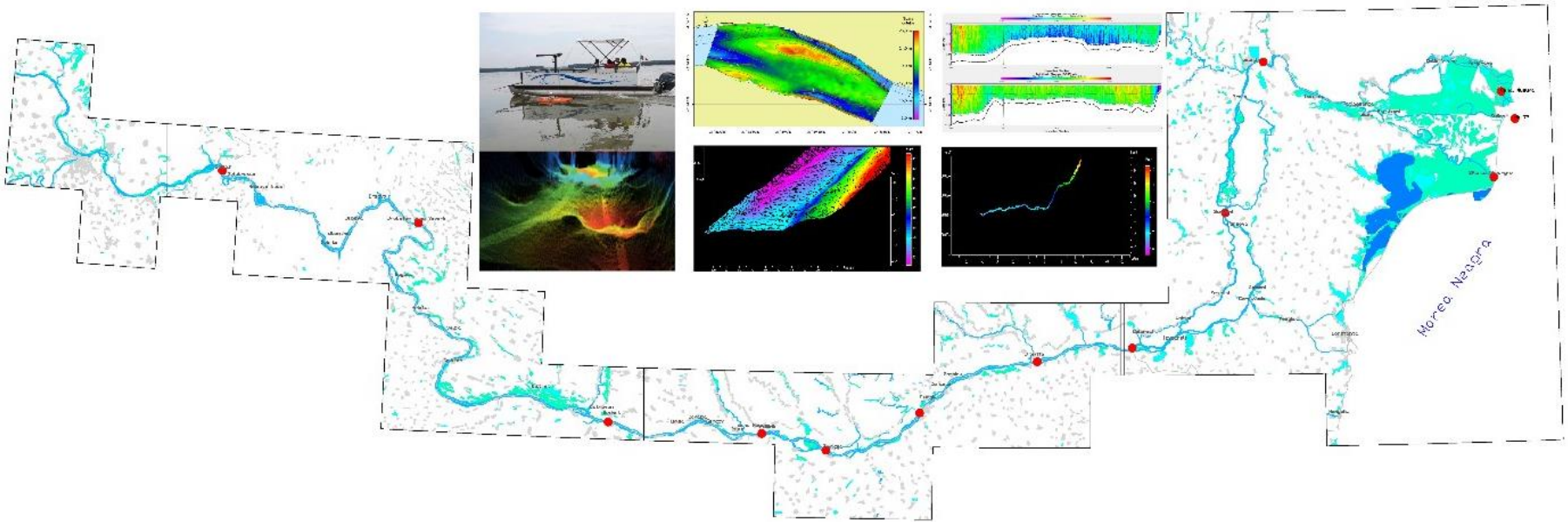
Albert Scrieciu

Conferinta CESP, Bucuresti, 21.04.2023

Cercetări interdisciplinare ale mediului fluvial

- studii complexe pentru evaluarea impactului generat de schimbările globale și intervențiile antropice asupra calității mediului dunărean și a principalilor afluenți



Restoration of wetland complexes as life supporting systems in the Danube Basin

- HORIZON-MISS-2022-OCEAN-01 submitted for HORIZON-MISS-2022-OCEAN-01 / 27 Sep 2022 (Danube river basin lighthouse – Protection and restoration of wetlands, flood plains, coastal wetlands and salt marshes and their biodiversity)
- Project duration – **48 months** (Not started)
- Project Budget: €8,499,953.75
- 31 Partners

Restore4Life Objective

Restore4Life demonstrates the multiple socio-economic benefits generated by a holistic and transdisciplinary approach for the restoration of freshwater and coastal wetlands in the Danube basin that will contribute to new blue-green infrastructure supporting regional climate change resilience and mitigation.

- 4 demonstration sites and
- 6 monitoring sites across the Danube basin

Make evident that increased delivery of key ecosystem services, as water and pollutant retention, carbon sequestration and tourism opportunities as well as improved resilience of water-dependent habitats will produce multiple socio-economic synergies that also provide opportunities for sustainable businesses and investments.

SO1. **Develop a Restore4Life Wetland Restoration Decision Support System** as life supporting system.

Adapt the wetland restoration framework

Co-development;
Co-design
Co-participation
Stakeholders engagement
Socio-ecological gradients
Climatic gradients

DEVELOPMENT

SO 3
Demonstrate and evaluate holistic wetland restoration approaches and compile, test and **optimize ecosystems' and ES assessment indicators**

TESTING &VALIDATION

SO 4
Support **local revenue and business activities** in restored ecosystems

IMPLEMENTATION

SO 5
Promote and support the implementation of **holistic wetland restoration solutions** in associated regions (inside and outside the Danube region)

Restore4Life will deliver and test an innovative Wetland Restoration Decision Support System for the implementation of practical solutions

Use and adapt the tools in real demonstration sites

SO 2
Empower stakeholders and the community by creating an extensive network of stakeholders and communities

Large scale use in other sites at EU level considering also the local level

ECOsystem-based governance with **DA**nube lighthouse **L**iving **L**ab for sustainable Innovation processes

Funded by the European Union

EcoDaLLi outline

- CSA under HORIZON-MISS-2021-OCEAN-02 (Protect and restore marine and fresh water ecosystems and biodiversity) **Danube Lighthouse**
- Project duration – **42 months** (01/23 - 06/26)
- Project Budget: €2,684,875.00
- 17 Partners +1AP
- 12 countries

Funded by the European Union

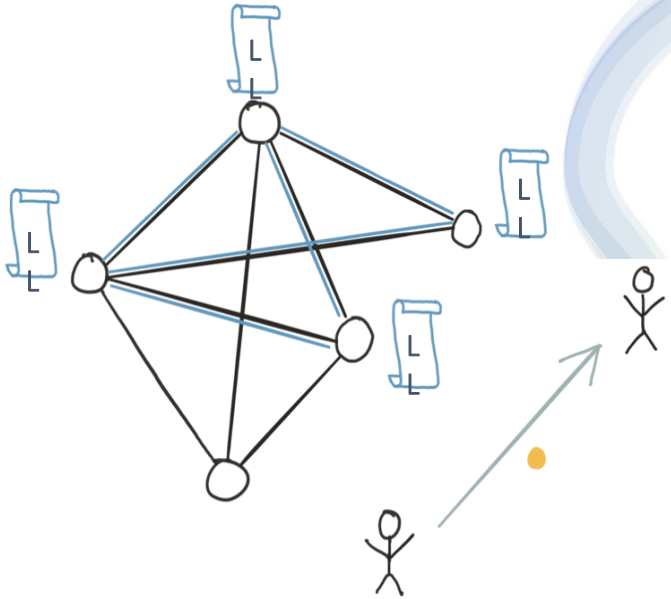
Consortium

No.	Participant organization name	Acronym	Country	Type
P1	Steinbeis 2i (Steinbeis Europa Zentrum)	SEZ	DE	BSO
P2	ICLEI – Local Governments for Sustainability	ICLEI EURO	DE	SME
P3	University for Bodenkultur Wien	BOKU	AT	RTO
P4	WWF World Wide Fund for Nature Hungary	WWF HUNG	HU	NGO
P5	University of Zagreb, Faculty of Mechanical Engineering & Naval Architecture	UNIZAG FSB	HR	RTO
P6	Faculty of Technical Sciences, Novi Sad	FTN	SR	RTO
P7	Danube Delta National Institute for Research & Development	INCDDD	RO	RTO
P8	National Institute for Research & Development on Marine Geology & Geo-ecology – GeoEcoMar	GEOECOMAR	RO	RTO
P9	Association of Danube River Municipalities "Danube"	ADRM	BG	NGO
P10	ACTeon	ACTEON SARL	FR	SME
P11	International Center for Advancement of Research, Technology & Innovation	ICARTI	GA	NGO
P12	Austrian Ministry of Agriculture, Regions & Tourism, Federal Agency for Water Management	BML-BAW	AT	PUB
P13	Ministry of Environment, Waters & Forests	MMAP	RO	PUB
P14	Tulcea County Prefect's Office	IP Tulcea	RO	PUB
P15	Executive Agency "Maritime Administration"	EAMA	BG	PUB
P16	Diadikasia Business Consulting	DBC	GR	SME
P17	Municipality of Draz	Opcina Draz	HR	PUB
AP	Smarter Mobility Solutions Ltd.	SMS	UK	SME
SP	JPI "Water challenges for a changing world"	WaterJPI	FR	PUB

No.	Advisor	Expertise	Affiliation
A1	Véronique Briquet-Laugier	Technology transfer in the field of biotechnologies, & strategy in innovation	WaterJPI, FR
A2	Margarida Coelho	Decarbonisation, Smart Mobility	University of Aveiro, PT
A3	Lucica Cristea	Business support	European Integrated Projects, RO
A4	Laurie Pickup	Transport Policies	University of Aberdeen, UK
A4	Manthos Bimpas	Digitalisation, citizen science	Institute of Communication & Computer Systems, GR

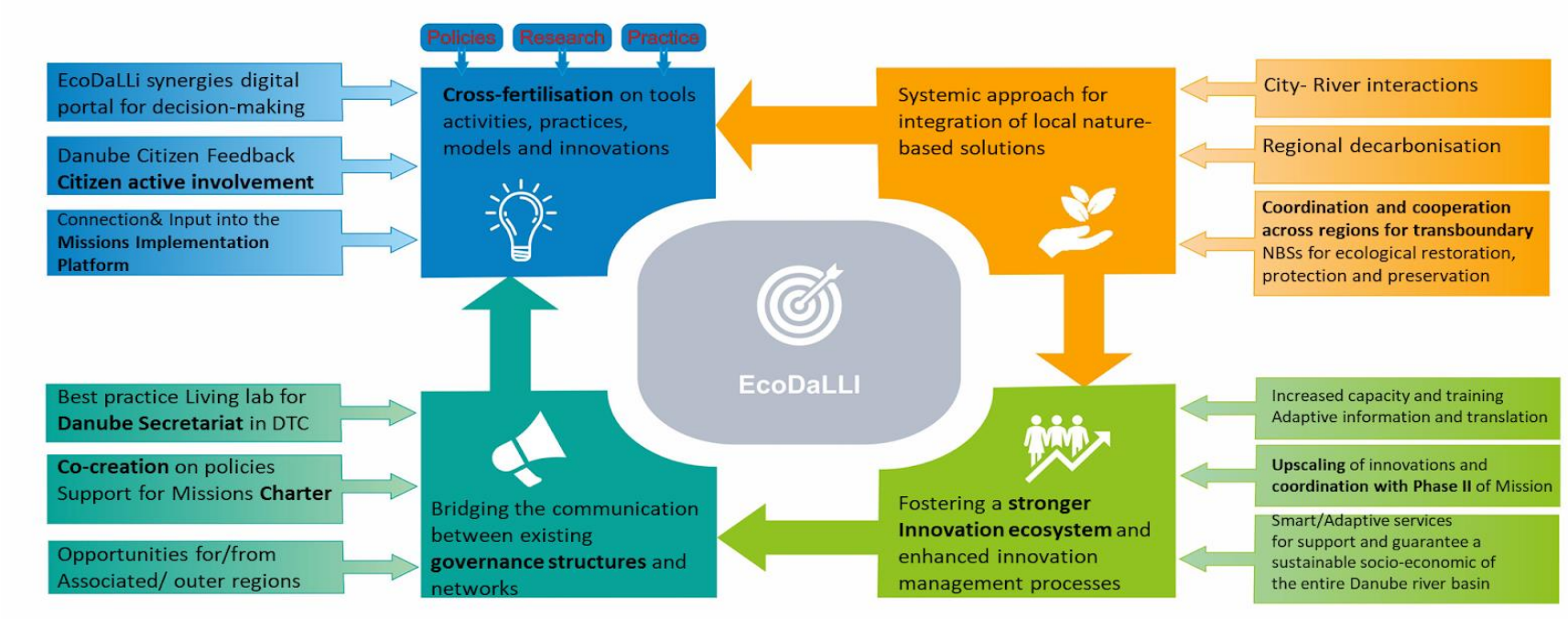
EcoDaLLi Objective

The main **objective** of EcoDaLLi is to centralise Danube governance structures in terms of **innovative solutions for improved ecological restoration, protection & preservation** of the **Danube basin & its Delta** by fostering a **stronger innovation ecosystem** within a well-connected **Living Lab** system.



Funded by the European Union

EcoDaLLi Concept



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STARS4Water

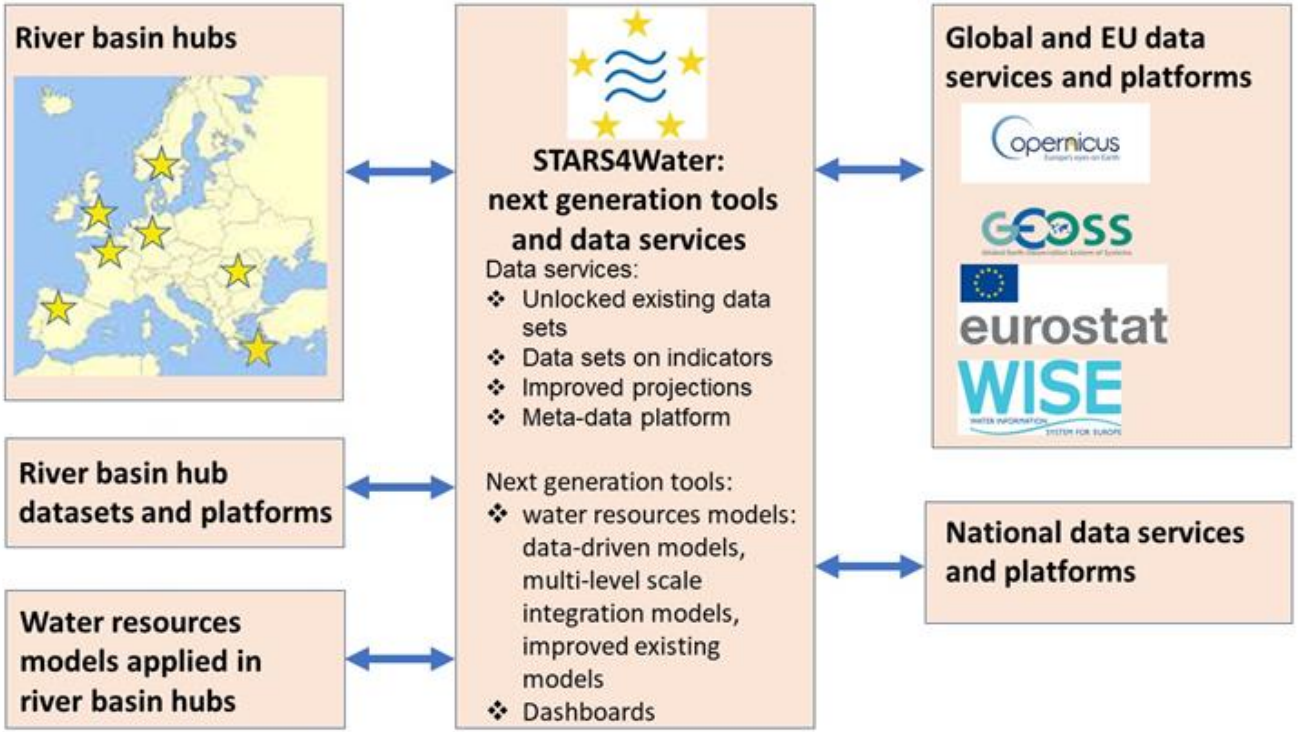
Supporting Stakeholders for Adaptive, Resilient and Sustainable Water Management

STARS4Water is about:

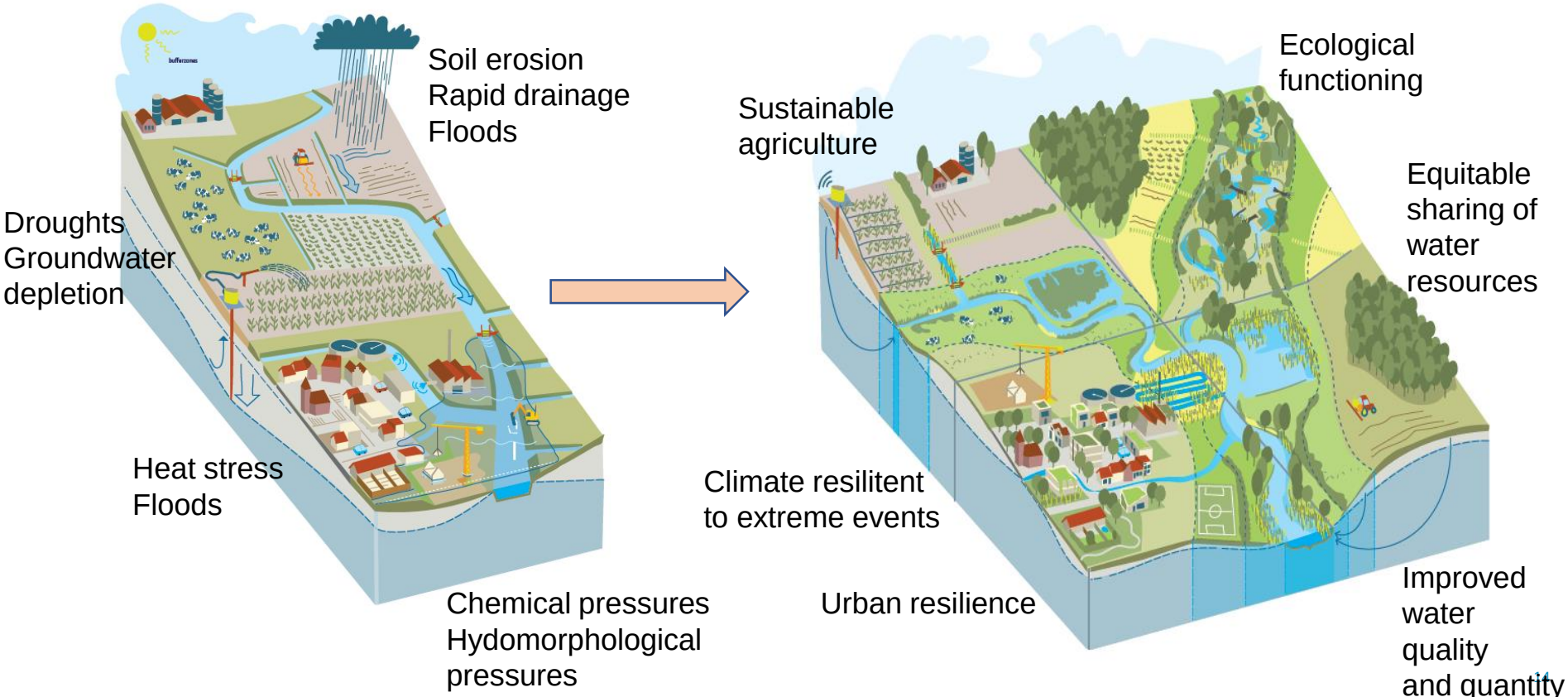
- To improve the understanding of climate change impacts on water resources availability and the vulnerabilities for ecosystems, society and economic sectors at river basin scale

- To develop and deliver new data services and data driven models for better supporting the decision making on planning on actions for adaptive, resilient and sustainable management of fresh water resources.

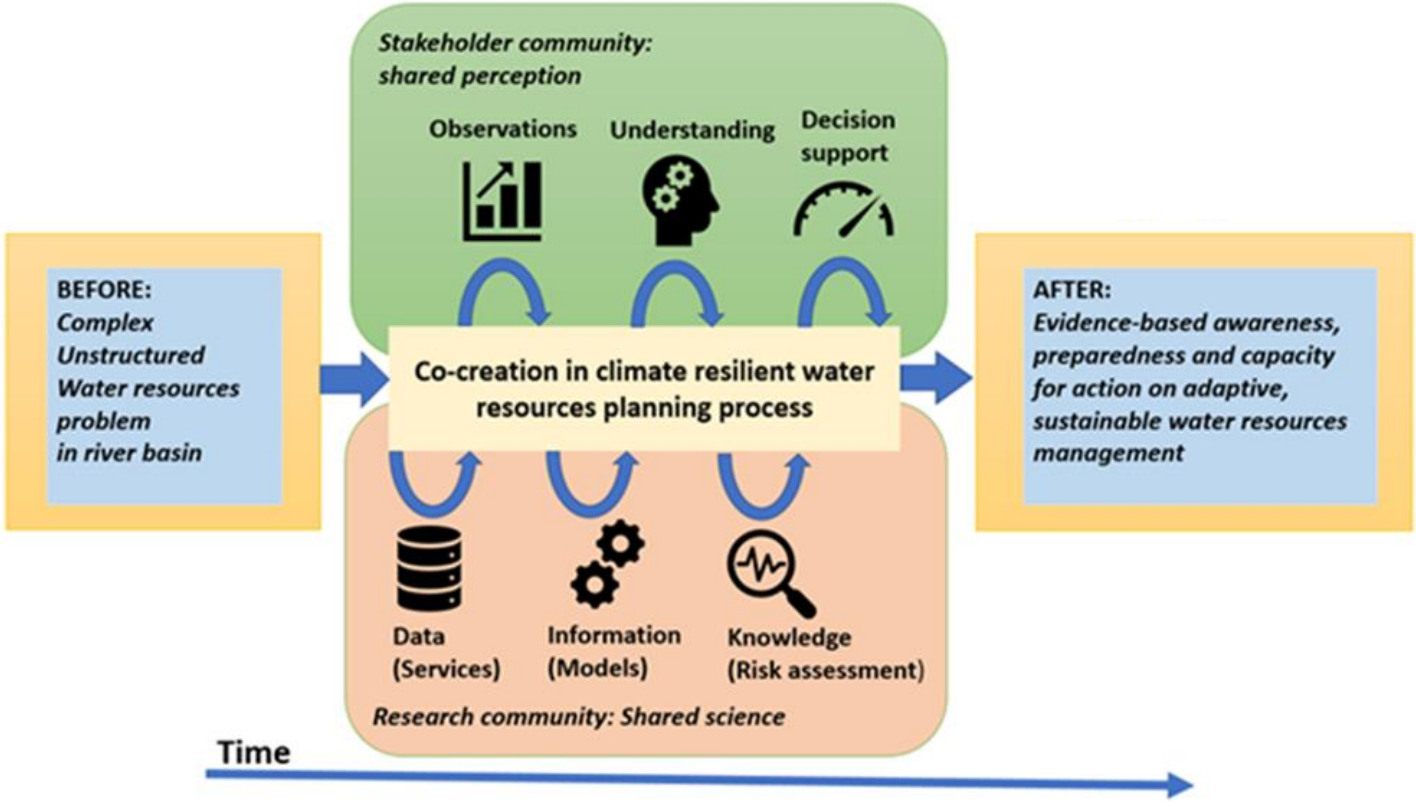
…next generation of Integrated Water Resources Management tools and data services



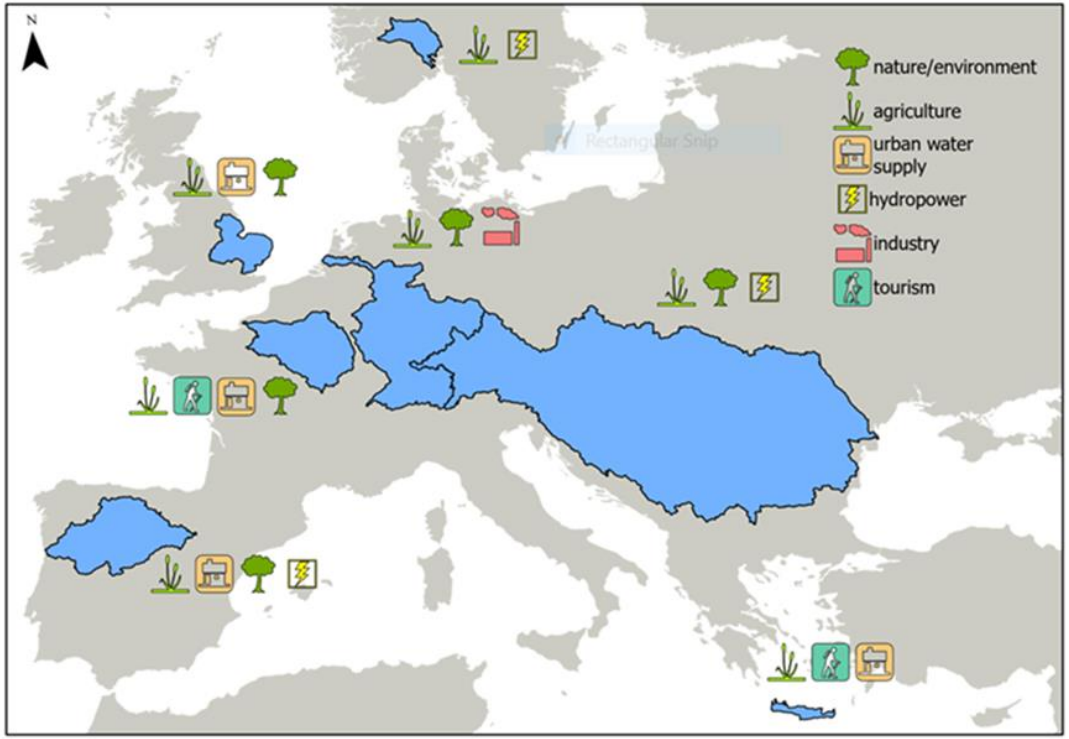
Towards climate robust catchments and water resources management



Key principle: co-creation with stakeholders



Key principle 2: river basin hubs



Stakeholders partners:

- **Rhine:** Rijkswaterstaat (NL)
- **Danube:** Administratia Fluviala a Dunarii de Jos R.A. Galati (RO)
- **Seine:** EPTB Seine Grands Lacs (FR)
- **Duero:** Confederación Hidrográfica del Duero (ES)
- **East Anglia:** Anglian Water Services Ltd. (UK)
- **Messara:** KRITI & Helenic Ministery of Environment and Energy (GR)
- **Drammen:** Norwegian Water Resources and Energy Directorate (NO)

REXUS

MANAGING **RE**SILIENT NE**XU**S **S**YSTEMS THROUGH PARTICIPATORY SYSTEMS DYNAMICS MODELLING

University of Castilla-La Mancha

Funded by the European Union

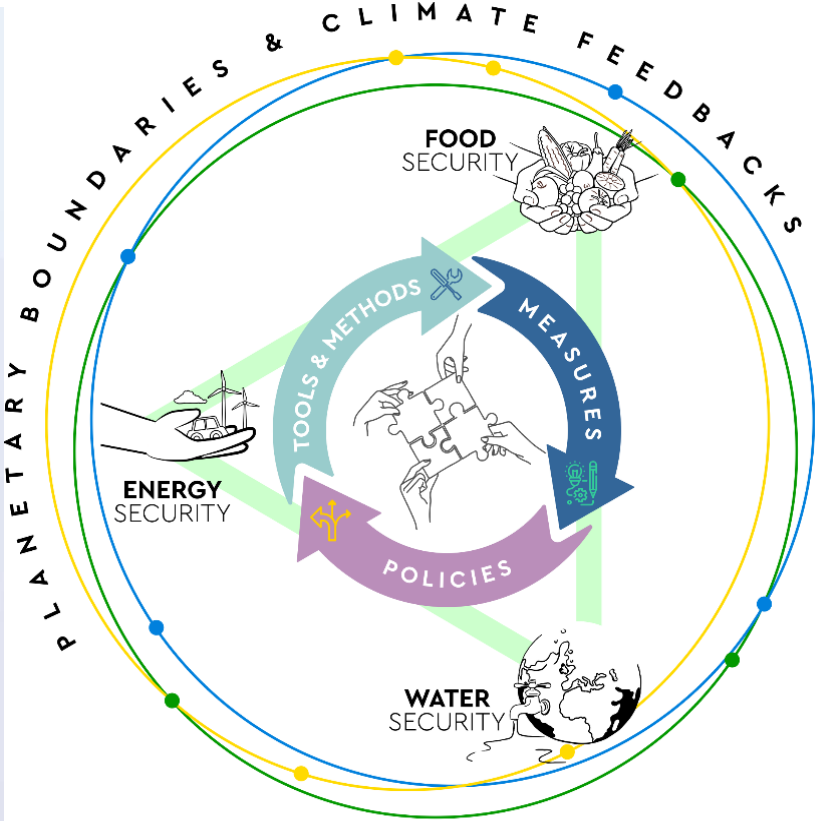
20 MAY 2021 - KICK OFF MEETING

REXUS



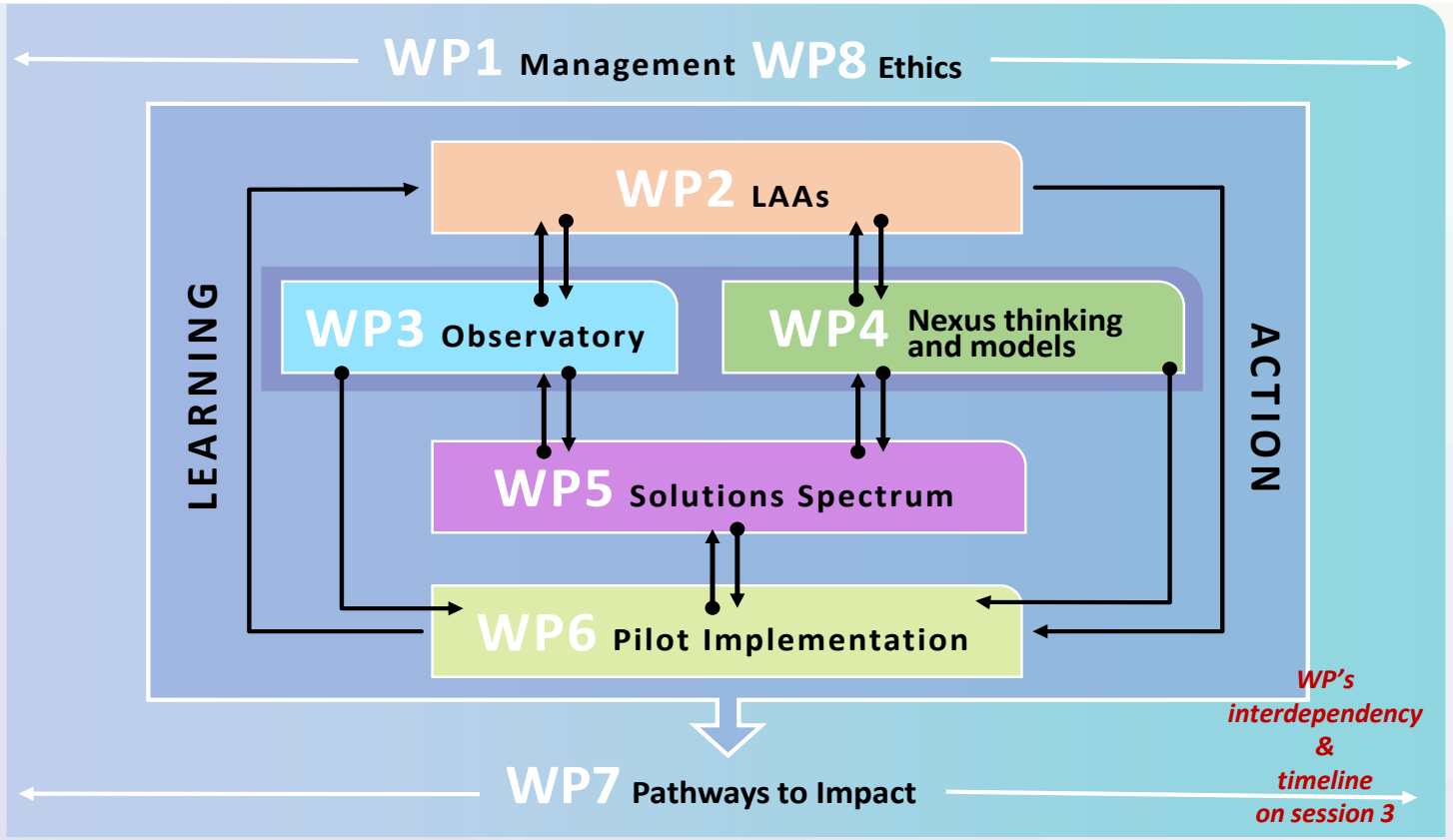

Co-Develop and Co-validate knowledge and tools that facilitate the transition from the stage of *Understanding the NEXUS* to *NEXUS Doing* to strengthen resilience

Conceptual framework Managing Resilient Nexus Systems

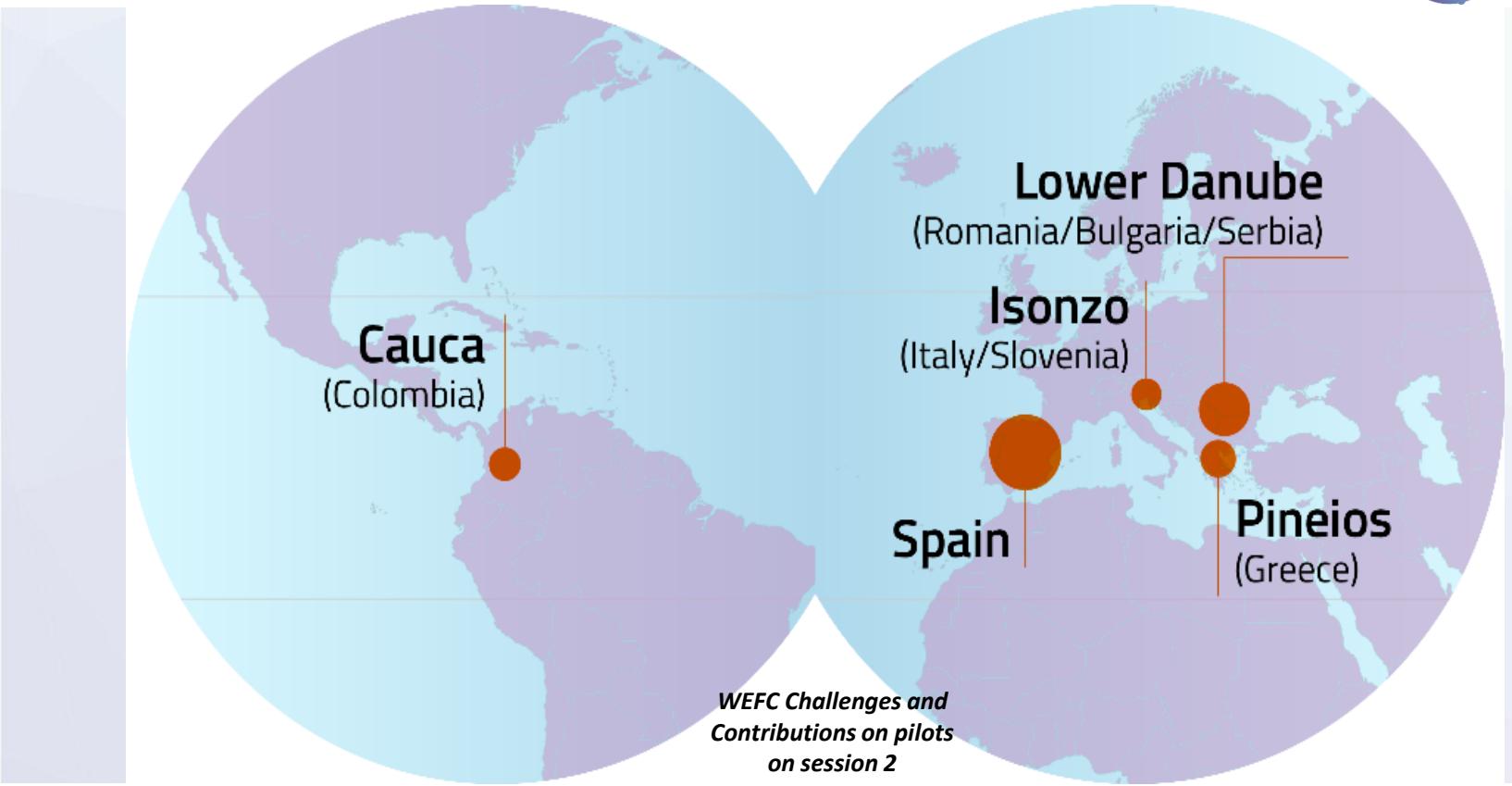


Consortium – 17 partners

REXUS


WP1 Management
WP8 Ethics
WP2 LAAs
WP3 Observatory
WP4 Nexus thinking and models
WP5 Solutions Spectrum
WP6 Pilot Implementation
LEARNING
ACTION
WP7 Pathways to Impact
WP's interdependency & timeline on session 3

Pilot Areas



WEFC Challenges and Contributions on pilots on session 2

WP	WP short name	WP leading partner	Country
1	Project Management	UCLM	Spain
2	LAAs	ICA	Spain
3	REXUS Observatory	DRAXIS	Greece
4	Advancing Nexus Thinking	UCAM	UK
5	REXUS Solutions	WCMC	UK
6	Pilot Implementation	AgriSat	Spain
7	Pathways to Impact	GWP-Med	Greece
8	Ethics requirements	UCLM	Spain

WP's interdependency & timeline on session 4

Pilot / Countries	Organisation
Isonzo - Italy/Slovenia	AAWA
Cauca - Colombia	CIAT
Lower Danube - Romania/Bulgaria/Serbia	GEOECO
Pinios - Greece	SWRI
Peninsular Spain - Spain	AgriSat




- More accurate evaluations of **future demands for water, energy, food**.
- Enhance **sharing knowledge and best practices** in climate-water-energy-food nexus assessment.
- Improve **integrated water resources management** and increase resilience to climate change.
- **Reduce the water risks for the energy sector** and optimize market and trade solutions across the nexus.




- Assess the impacts of **EU regulatory framework** on a sustainable water-energy-food nexus.
- **Reduce institutional fragmentation whilst increasing cross water, energy, food collaboration** and inclusive multi-stakeholder engagement (LAAs).
- **Strengthen EU role in international water issues and** become a leading actor on water diplomacy.




H2020 Restarting Economy in Support of Environment, through Technology (ReSET)

An introduction to ReSET

Environmental intelligence supporting nature-based investment for environment, jobs and economy

ReSET is supported by the EC H2020 programme under contract number 101017857

KING'S College LONDON

RIKS research institute for knowledge systems

AmbioTEK Technology Environment Knowledge www.policysupport.org

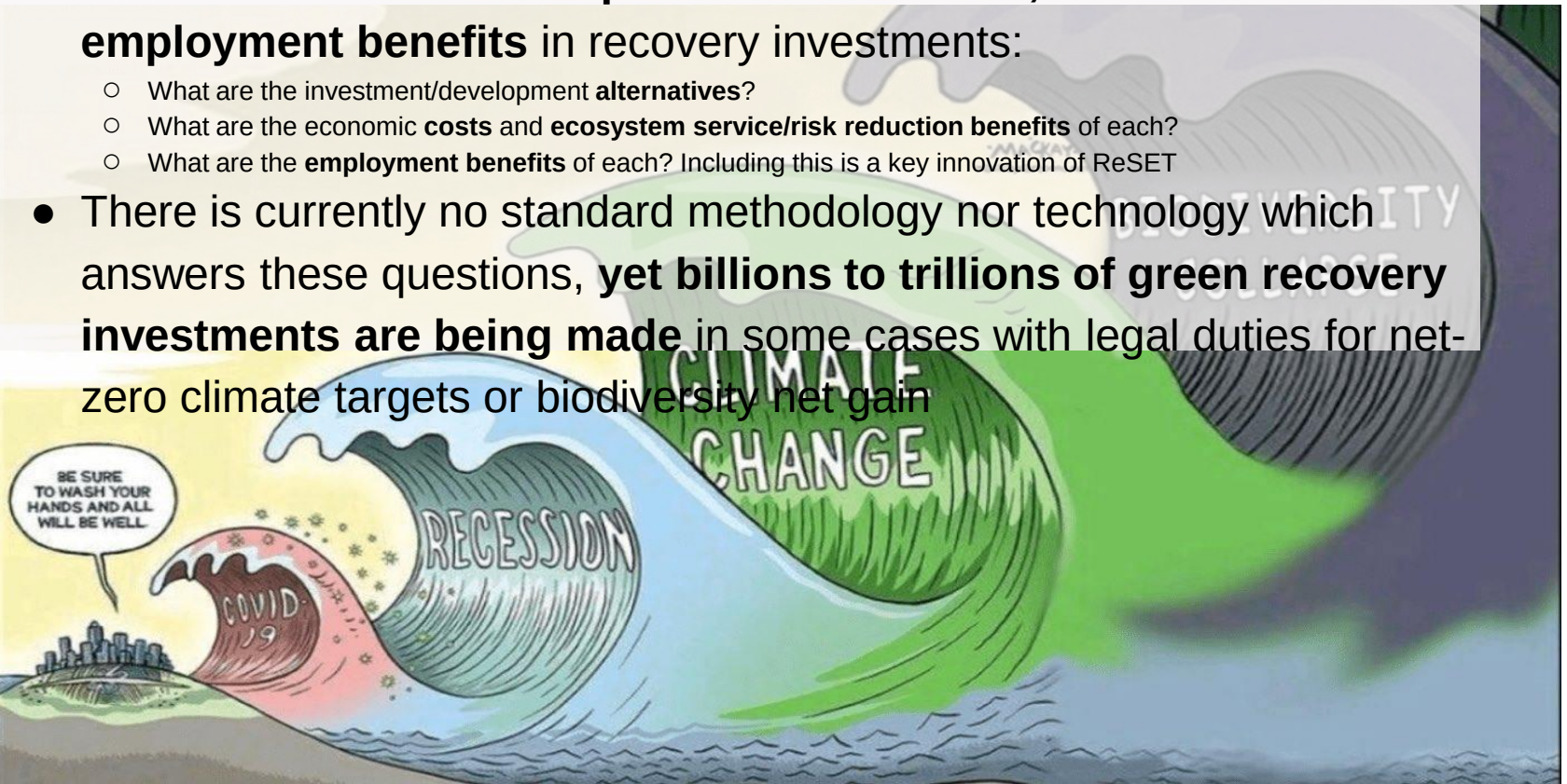
ICATALIST

GeoEcoMar

IRSA CNR

The problem

- **In short: we need green growth, how?**
- How do we achieve the **triple win of economic, environment and employment benefits** in recovery investments:
  - What are the investment/development **alternatives**?
  - What are the economic **costs** and **ecosystem service/risk reduction benefits** of each?
  - What are the **employment benefits** of each? Including this is a key innovation of ReSET
- There is currently no standard methodology nor technology which answers these questions, **yet billions to trillions of green recovery investments are being made** in some cases with legal duties for net-zero climate targets or biodiversity net gain



The (tech) solutions

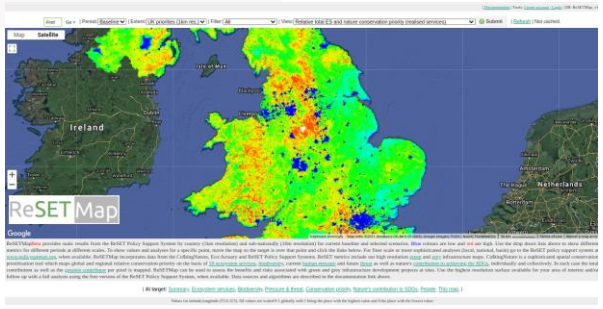
- **In short, through Environmental *Intelligence***

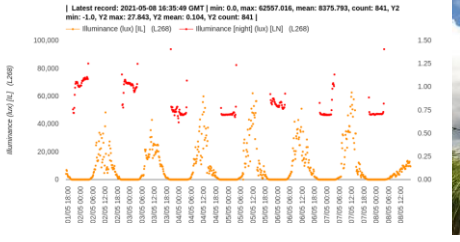
- Coupling of near real time, ML-powered high resolution remote sensing products with sophisticated but accessible **spatial policy support systems (**ReSET-IT**)** for **strategic spatial prioritisation of green investments for environmental benefits, job creation and economic sustainability**

- Robust, distributed networks of *near real time sensors for* evaluation of different nature-based investment options (strategy and effectiveness assessment) //Smart:

- **Science and communication** to better understand the costs and benefits of real-world investments ReSETMap

- **Improving on the state of the art** evidence base for such investments for both **prioritisation** (what, where) and **effectiveness assessment** (cost/benefit) ReSETMap





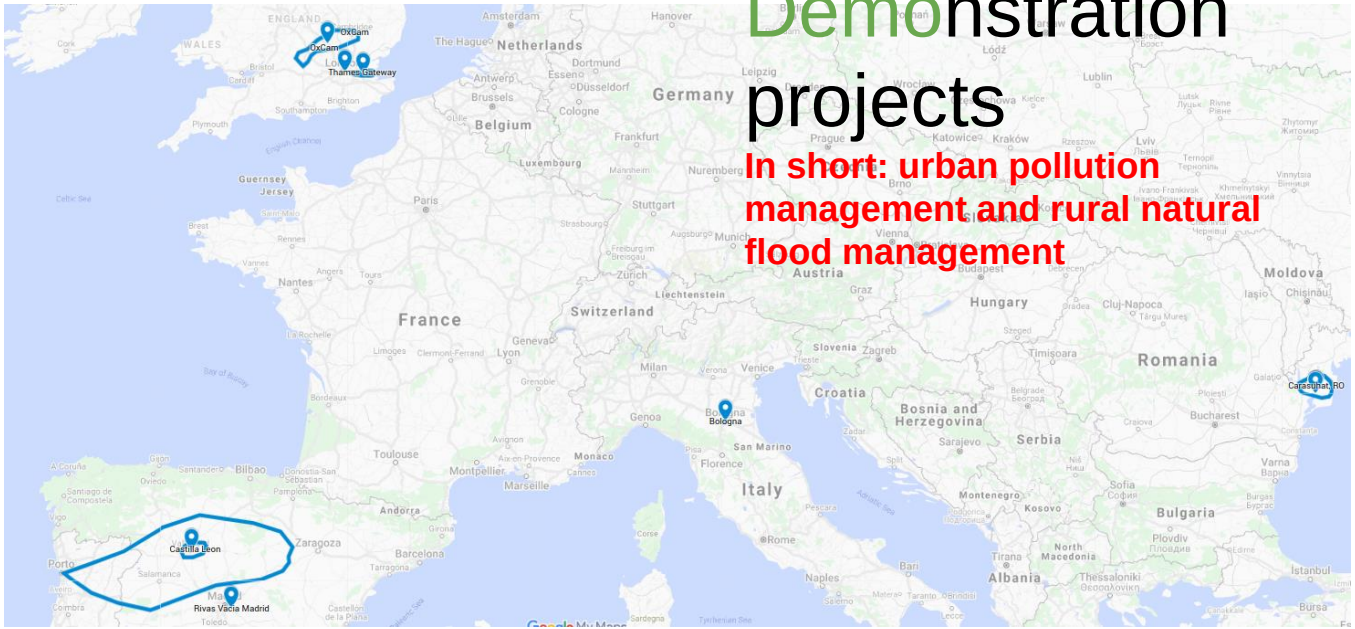
The Audience

ReSET-IT/ReSETMap &
//Smart:/Both

- Green/Grey, net zero and post-COVID recovery **investors**
- **Developers** with active urban and rural development projects
- Impacted **citizens** and citizen scientists
- **Farmers**, landowners, councils
- Hazard, resilience **managers**
- **Insurers**
- **Conservation** and environmental orgs
- **Teachers** and their students

Demonstration projects

In short: urban pollution management and rural natural flood management



- **Carasuhat** - impact of boat traffic on air, noise and light pollution (focus on impacts on wildlife)
- **Bologna** - impacts of potential investments on reducing personal exposure to thermal extremes
- **Cuenca del Duero** - NFM and floodplain management techniques. Hypothetical Regen Ag. investments may come back on to the list if monitoring equipment can be installed by Spring 2022 to parameterise modelling for RA.
- **Rivas Vaciamadrid** - investments to reduce personal exposure to air and noise pollution.
- **Europe** - ecosystem restoration scenarios
- **Thames Gateway -** focus on NFM, leaky dams as a flood mitigation strategy, impacts of Regenerative Agriculture
- **OxCam Arc, i**ncluding Spains Hall Estate - nature-friendly farming techniques for NFM within the context of
- **London, including Strand-Aldwych** - pedestrianisation investments to reduce personal exposure to noise and air pollution

Vă mulțumesc pentru atenție!

Join and share your views, expectations and suggestions

albert.scrieciu@geoecomar.ro

H2020 Restarting Economy in Support of Environment, through Technology (ReSET)