COASTAL

COLLABORATIVE LAND-SEA INTEGRATION PLATFORM

https://h2020-coastal.eu/

ICRE8

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 773782.

COASTAL H2020 European Commission Project

COASTAL
Collaborative Land-Sea Integration Platform

From source-to-sea, a unique research and innovation project based on multi-actor collaborations of coastal and rural stakeholders and system dynamic modeling to formulate and evaluate business solutions and policy recommendations aimed at improving land-sea synergies and coastal-rural collaborations.

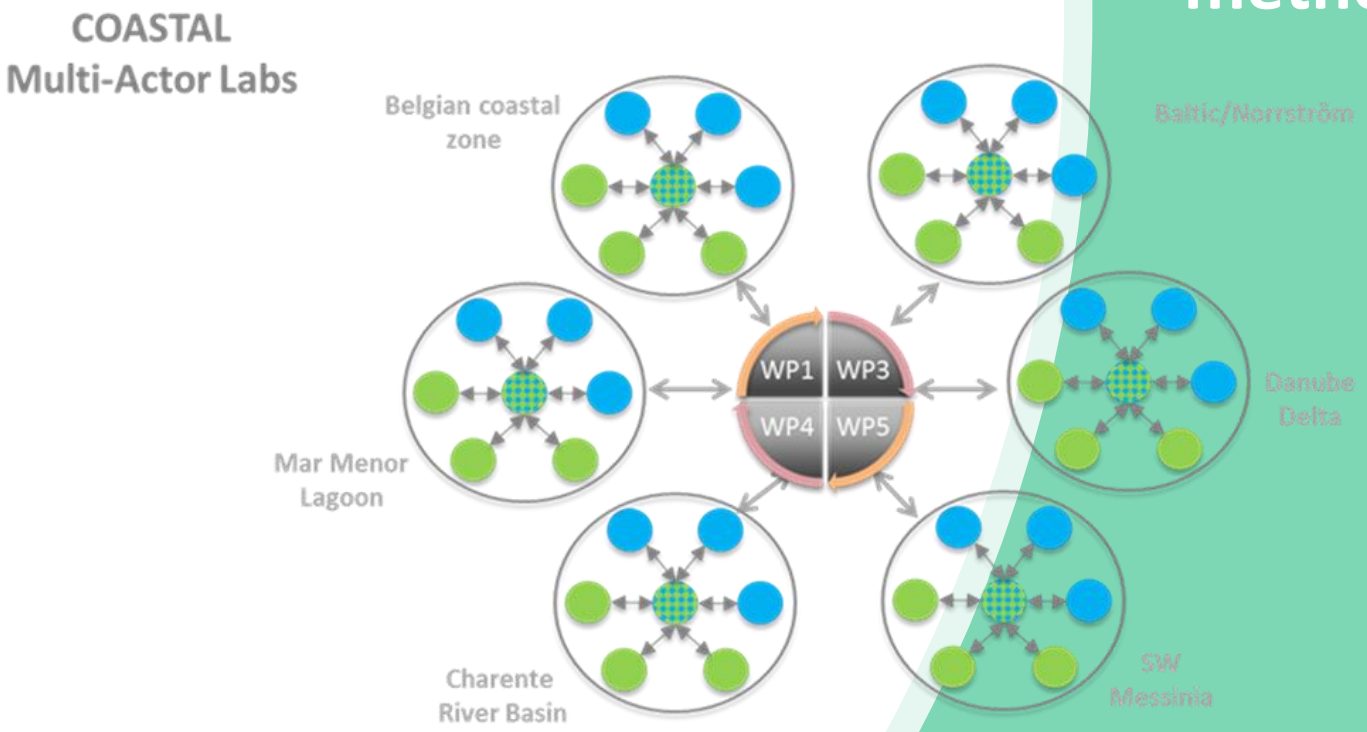
Combines quantitative and qualitative approaches **to better understand land-sea interactions and foster cross-sectoral collaborations.**

Find more at: https://h2020-coastal.eu
Implementation period: 2018-2022
Budget: € 5 million

WHO: SIX Multi-actor labs and 29 partners, > 500 stakeholders

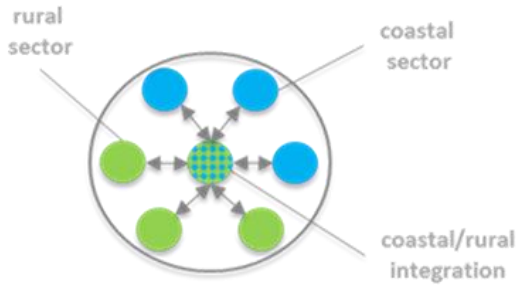
1. Belgian Coastal Zone
2. South-West Messinia
3. Norrström/Baltic
4. Charente River Basin
5. Danube Mouth and River Basin
6. Mar Menor Coastal Lagoon

COASTAL participatory methodological approach



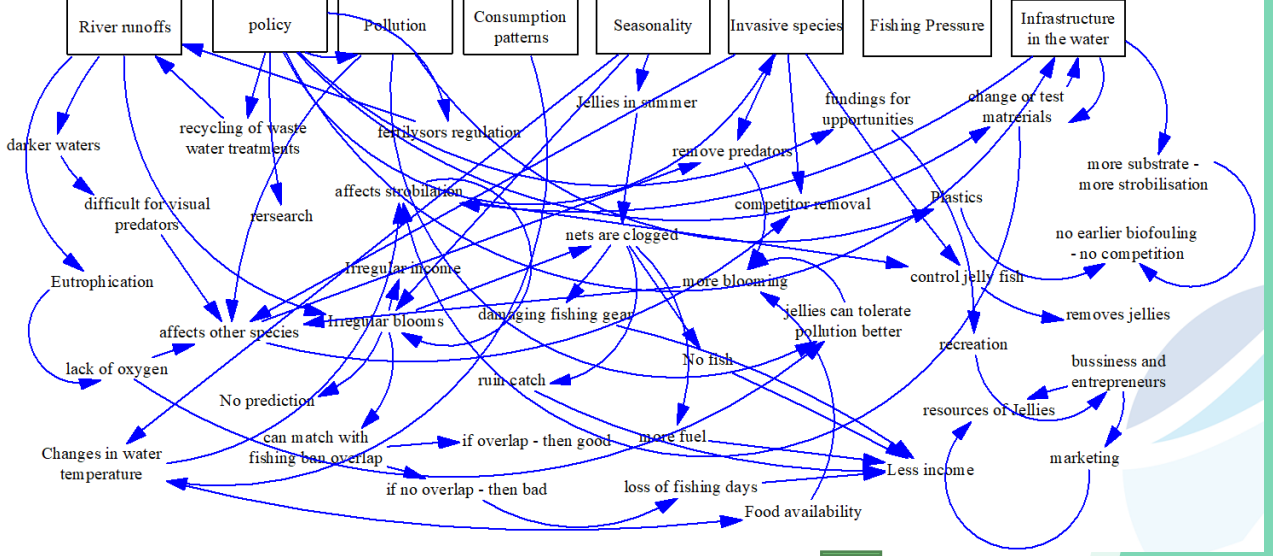
Identify challenges and opportunities in the land-sea interface, and potential cross-sectoral conflict
Main motivations and barriers for land-sea interactions and synergy that could foster development

Validation and feedback on project progress

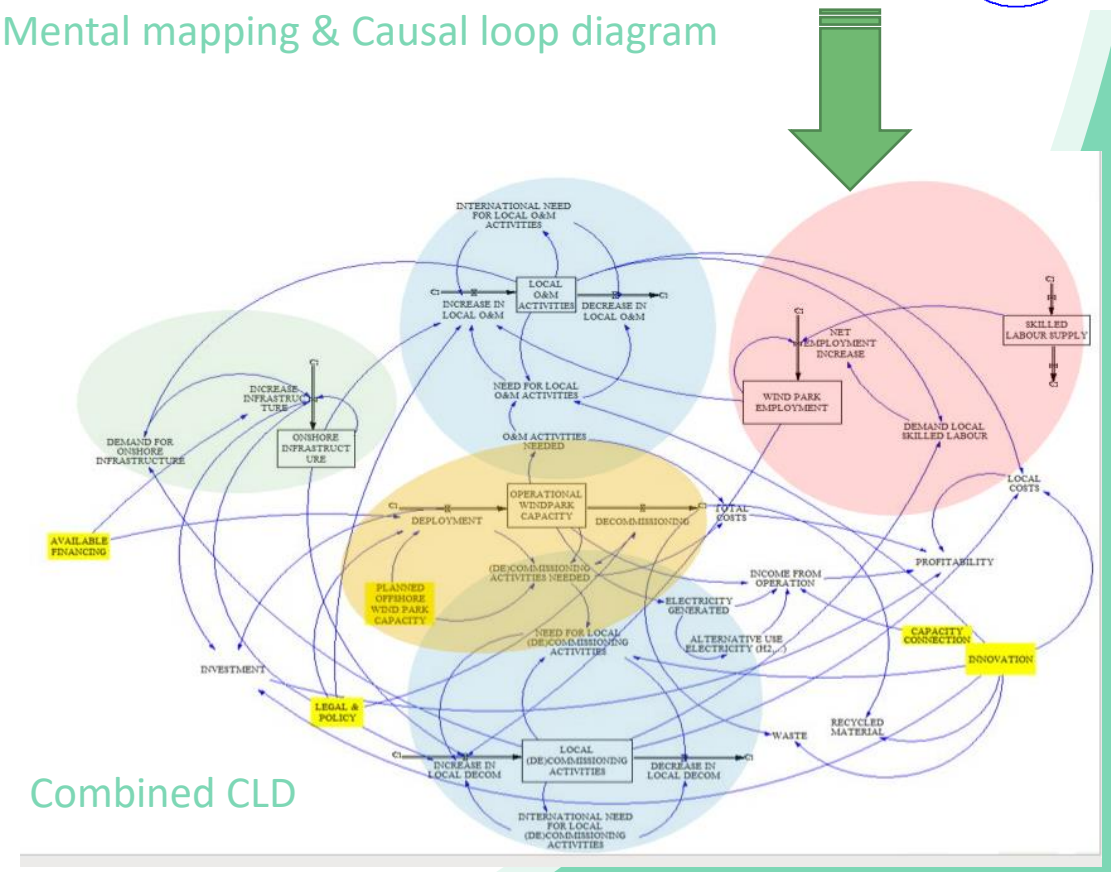


Inter-Sector Labs of MAL (case study level)

Inter-Case Study Lab of MAL (international level)



Mental mapping & Causal loop diagram



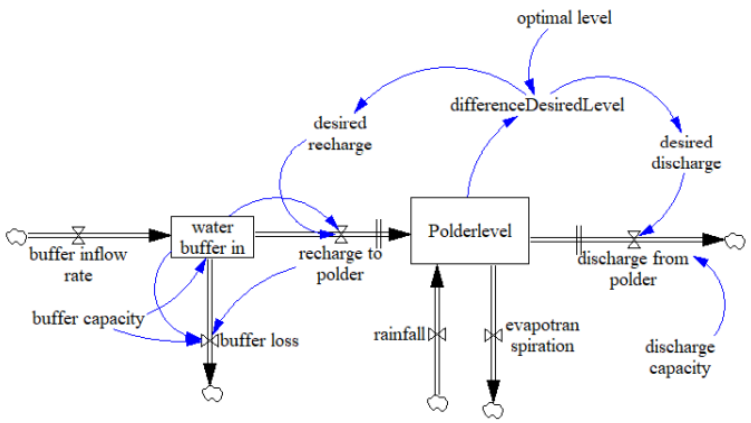
Combined CLD

System Thinking approach

A co-creation process using mental mapping and causal loop diagram to identify priority issues and main interactions between sectors of the land-sea social-ecological system.

Combined CLD is validated by local stakeholders in a multi-actor workshops.

CLD are the basis for quantitative System Dy namics models

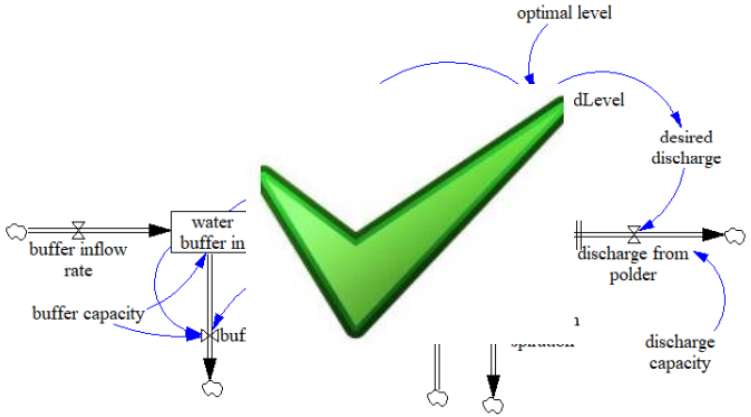


Combining Participative approach and System Dynamic modelling

Co-procuce a sustainable future for coastal regions based on land-sea synergies and sectoral collaborations, using visioning and backcasting tools.

Support the definition of the SD model's scope

SD models are used to quantitatively analyze systemic land-sea interactions and evaluate different policy alternatives using key indicators



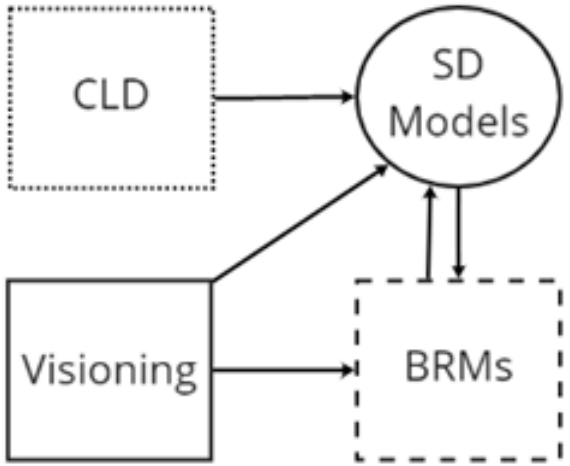
Co-identify business and policy solutions for land-sea synergies

- Validate the SD models with local stakeholders

- Visualization of the evolution of key indicators (numerical scenarios)

- Co-identify short to long terms business and policy actions supporting cross-sectoral synergies in the land-sea continuum

A framework to analyze land-sea interactions and support synergetic actions



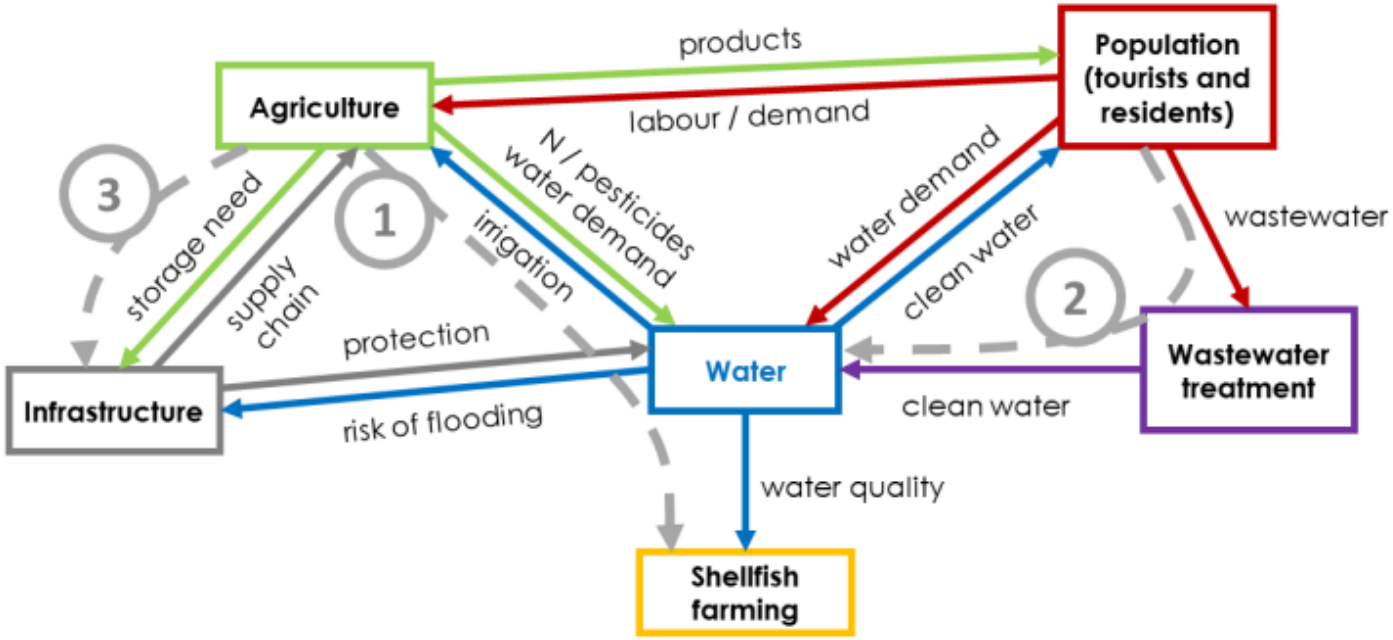
System dynamic models for LSI are used to help identify the important system transitions, compare business and policy decisions, and evaluate the social-environmental resilience of the system.

Combine with strong stakeholder engagement, it supports strategic business and policy analysis aimed at improving land-sea synergy.

Startegic business Roadmaps are used as regional sustainable development plans across the land-sea continuum

The Charente river basin – *French Atlantic coast*

Sea based activities highly dependent on upstream activities



1

There is a high dependence of downstream activities on upstream activities in terms of water quantity and quality. Coastal water quality is essential for shellfish farming and tourism and depends on upstream water withdrawals and pollutions.

2

Summer tourism causes coastal congestion and leads to a growing demand for drinking water and needs for larger capacities for wastewater treatment plants (capacities are already stretched beyond their limits with risk of overloading in summer).

3

The development of ports relies on inland agricultural production and any change in farming systems may have large impact on port activities. If crops are diversified, ports should adapt their activities.

COASTAL approach for LSI in the context of MSP

System thinking, a holistic approach to better understand complex socio-ecological system such as land-sea interface, and harness local knowledge

Mind Maps, Causal Loop Diagrams and SD models for LSI are used for a qualitative and quantitative understanding of LSIs, identify key interactions and **help prioritize LSI**

The project will **deliver LSI models** (a toolbox) to replicate developed models in other coastal regions.

- System dynamic models can support prospective exercises for planning development of future activities on the coast and at sea

- System dynamic models don't support spatial data but can be replaced by spatial indicators

- SD models are dependent on available data

- System dynamic models can be challenging for non-modelers

- Model scope must be clearly defined at the beginning of the process

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Thank you for your attention

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