What's possible for integrating European social-ecological research?

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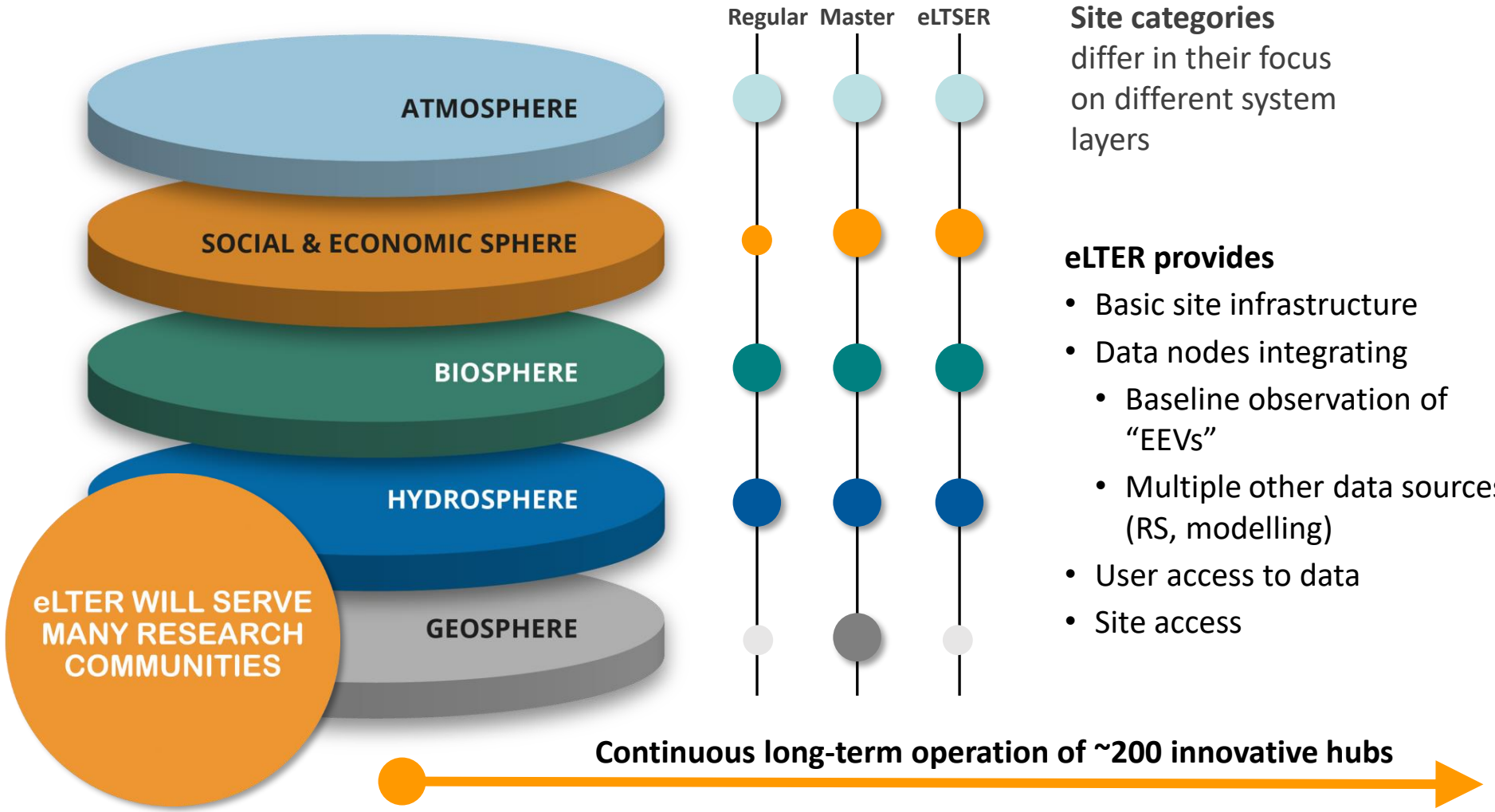
The context: Integrated European Long-Term Ecosystem, Critical Zone & Socio-ecological Research Infrastructure (eLTER RI)



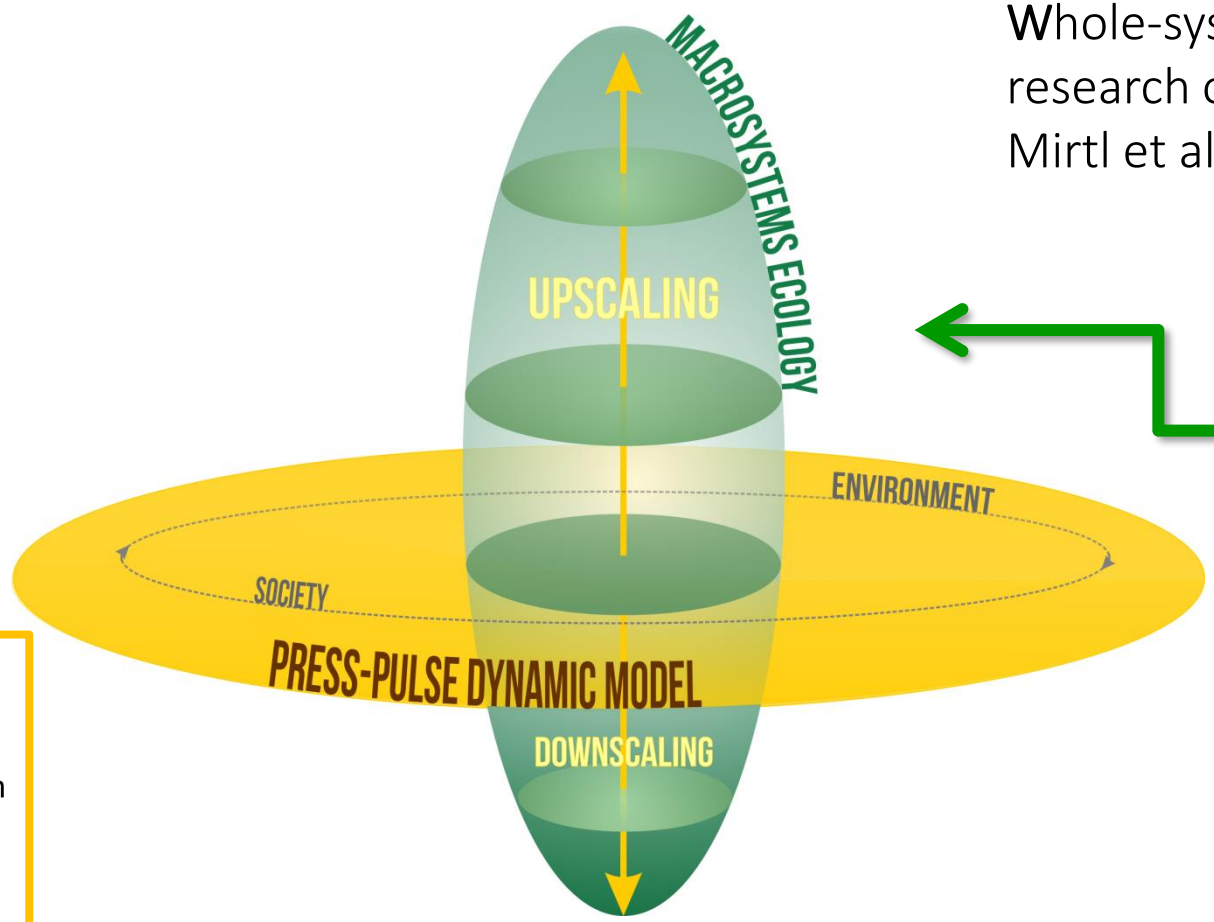
Site categories
differ in their focus on different system layers

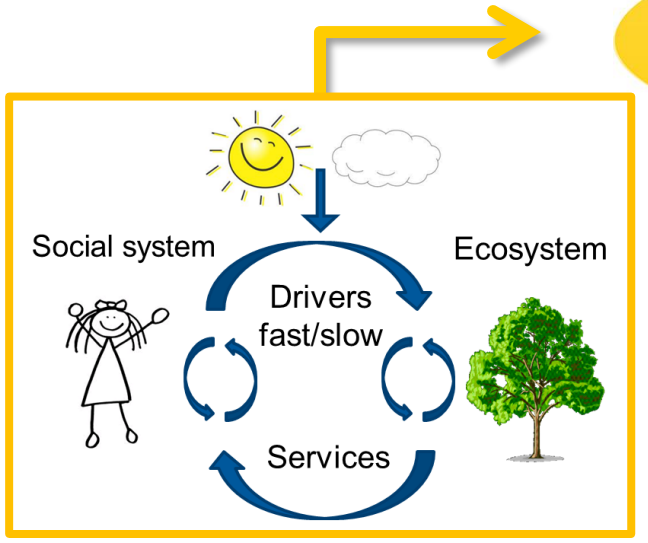
eLTER provides

- Basic site infrastructure
- Data nodes integrating
  - Baseline observation of "EEVs"
  - Multiple other data sources (RS, modelling)
- User access to data
- Site access

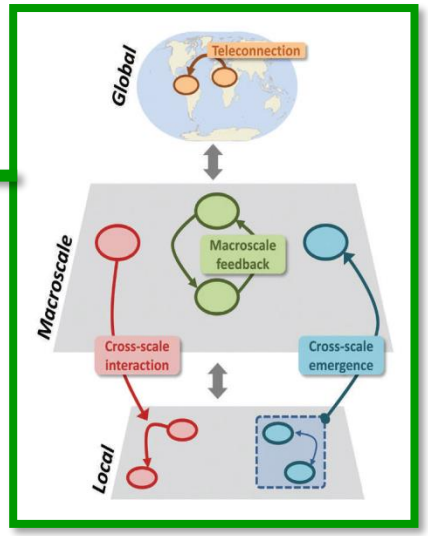
Combination of Press-Pulse Dynamic Model and Macrosystems Ecology = **WAILS**

Whole-system **A**pproach for **I**n-situ research on **L**ife **S**upporting **S**ystems, Mirtl et al, in preparation



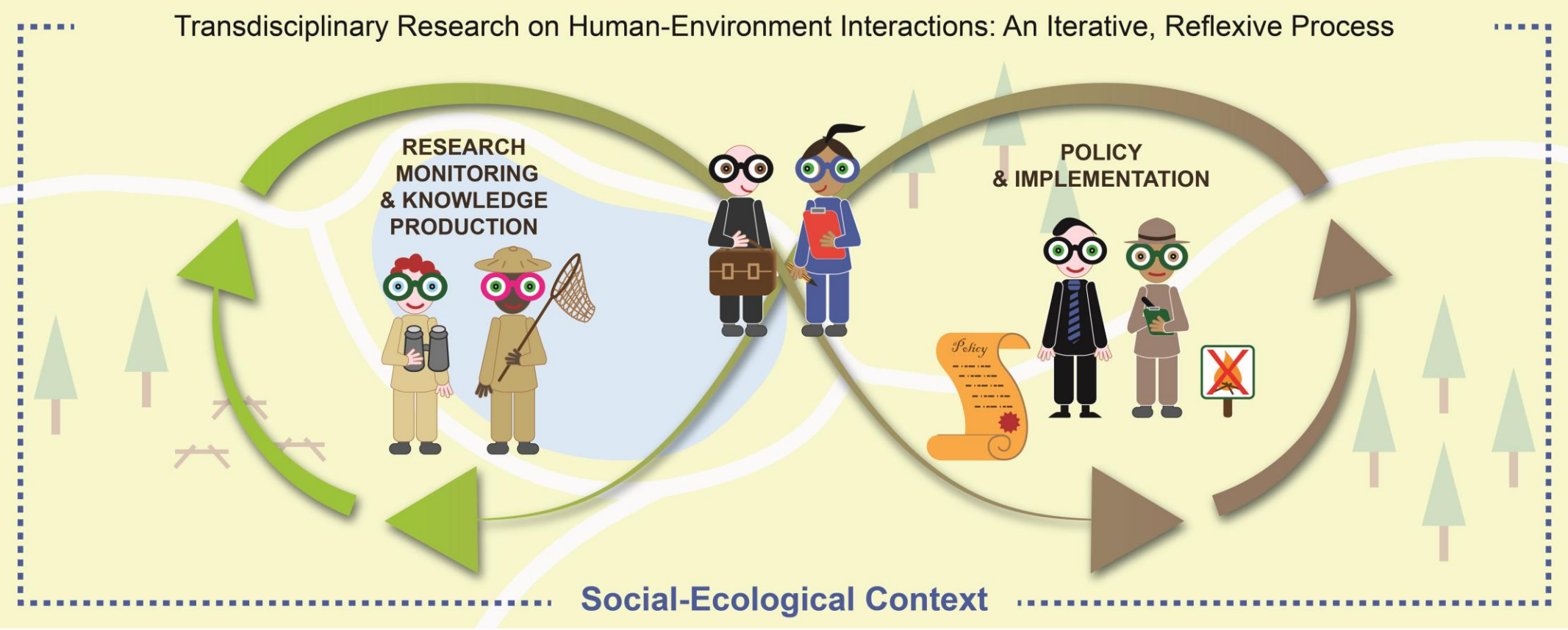


Social ecological Pulse-Press-Dynamics (PPD), adapted from Collins et al, 2011



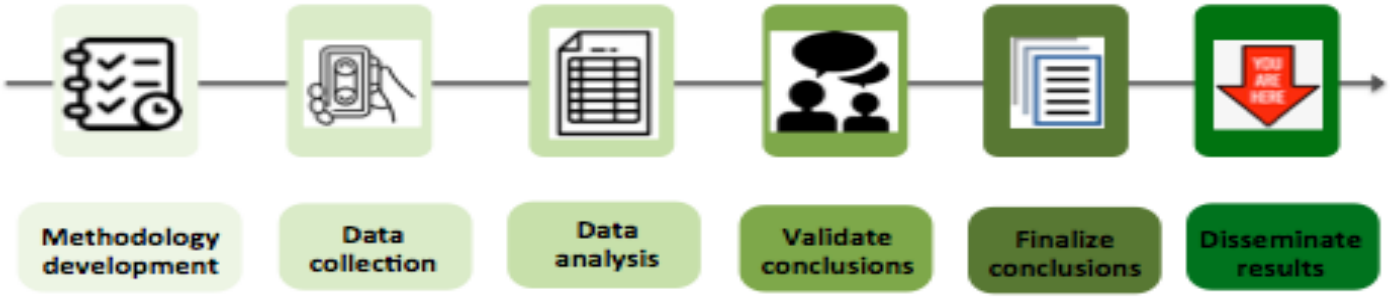
Macrosystem Ecology (MSE) – e.g. Hefferman et al, 2014

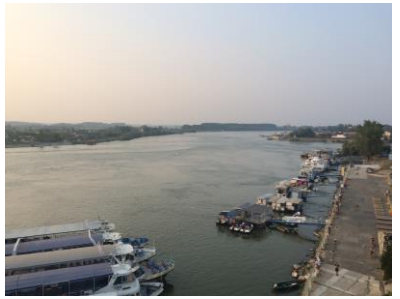
A vision of integrated environmental research



"The integration of the social sciences into long-term ecological research is an urgent priority"
(Redman et al. 2004)

Participatory program evaluation





Danube Delta
Braila Island
Romania

Cairngorms
Scotland, UK

Doñana
Spain

Inquiry	Findings
Added value	• Problem-solving orientation • Global research network • New collaborations, broader participation • Promotes long-term research and observation
Social science integration	• Desire for more social science research • Integrated in a piecemeal fashion • Power asymmetry between natural scientists and social scientists
Participation	• Researchers initiate • Educational and citizen science initiatives
Impacts	• Research outputs, knowledge exchange • Platform champions taking opportunities
Challenges	• Pressure to do “useful” science • Defining objectives and roles • Status quo and institutional inertia

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Emphasize successes

Level the playing field for social science

Make requisite

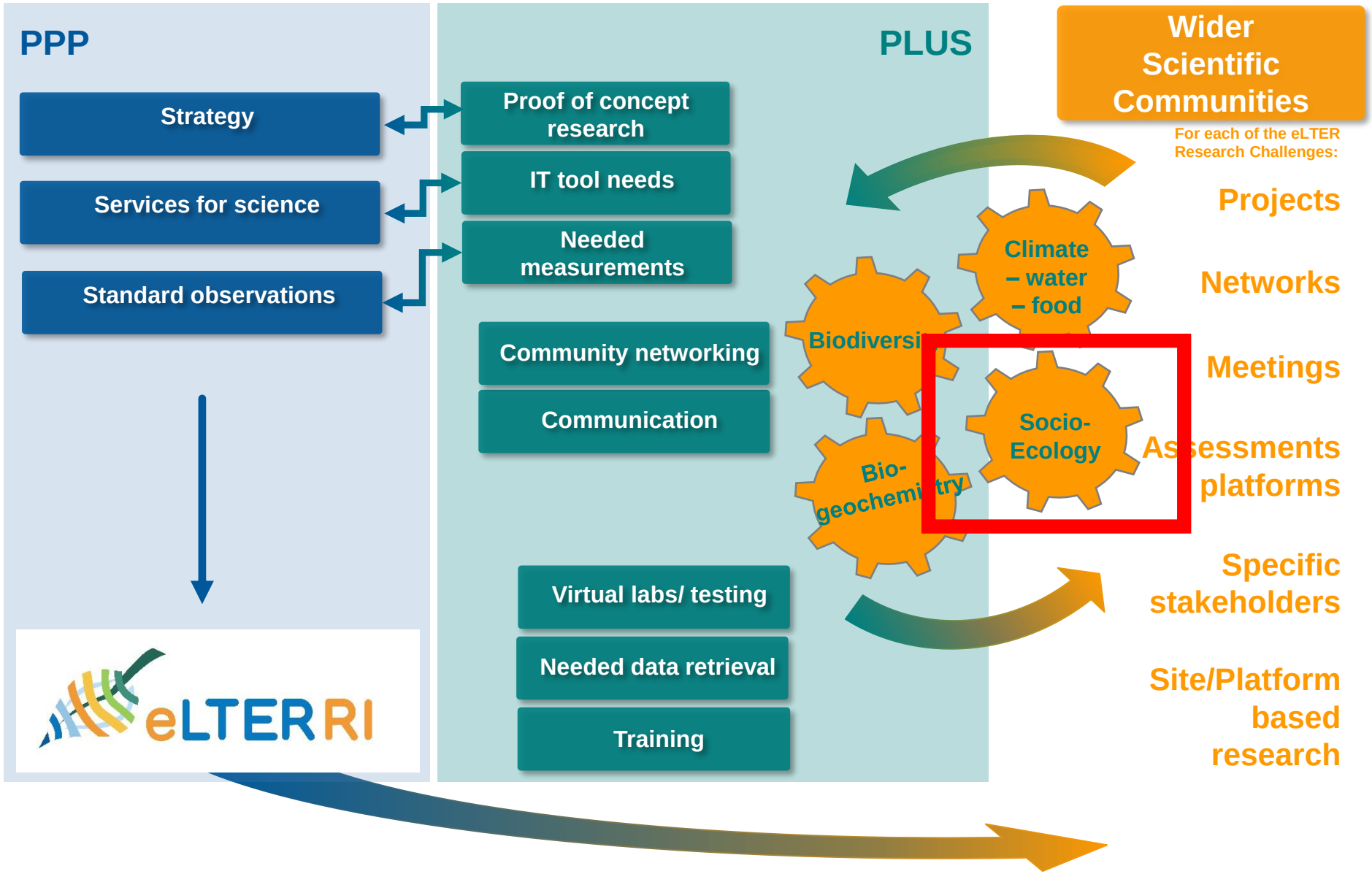
Emphasize and implement

Advocate for change

How evaluation led to change (from proposal writing stage onward)

- Systems approach, systematically implemented
- Dedication to WAILS approach
  - Interdisciplinarity
  - Social ecological pulse-press dynamics model
- Socio-ecological integration and transdisciplinary
  - Integral to project development
  - Given predominant research focus
  - Emphasis on integration of stakeholders at every spatial scale
- A priori commitment to policy relevance
  - Selection of grand environmental challenges
  - Emphasis on links to the policy making community

Socio-Ecology as Central “Gear“ in the eLTER PPP and PLUS

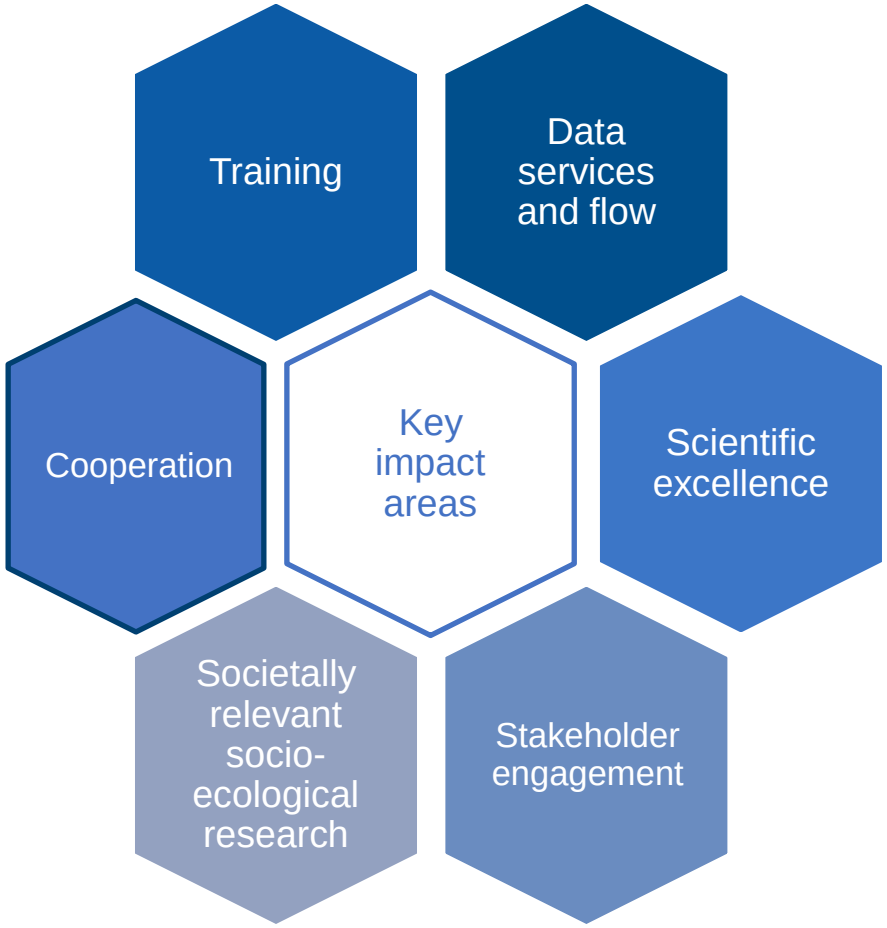


What are we doing differently?

- **Institutionalization** of socio-ecological components
  - Exemplary socio-ecological research to demonstrate the utility of the research infrastructure
  - Systematic collection and harmonization of [socio-ecological] data
- Putting our **commitments** out in front: **documentation** (e.g., strategic objectives) and **accountability** to the European research community (ESFRI)
- Built-in **evaluation mechanisms**
  - Socio-economic impact assessment
  - Ethical guidelines (inclusiveness)

How will we assess impact in the future?

- **Assessment framework** to assess “key impact pathways”
  - Activity
  - Outcome
  - Impact
- **Indicators** – systematically selected through expert consultation
  - Relevance
  - Acceptability
  - Credibility
  - Ease
  - Robustness



Larger lessons for inter- and transdisciplinary integration

Strengthen RI collaborations & focus on synergies

Outreach to stakeholders

Maintain vigilance, patience, & dedication to goals

Train researchers in tools for inter- and transdisciplinary work

Thank you!

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For more information on the eLTER RI: https://www.lter-europe.net/elter-esfri