

Terrestrial Habitat connectivity in Catalonia: implications for forest management

Ivette Serral (ivette@creaf.uab.cat)¹, Vitalii Kriukov², Lucy Bastin², Joan Masó¹
¹CREAF, Autonomous University of Barcelona, Spain
²ASTON University, UK



Policy context

The European Green Deal. Accessible and interoperable data are at the heart of data-driven innovation. This data, combined with **digital infrastructure** and **artificial intelligence** solutions, facilitate evidence-based decisions and expand the capacity to understand and tackle environmental challenges.

Data Spaces are intended to become the EC comprehensive solution to **integrate data** from different sources with the aim to generate and provide a more **ready to use knowledge** on climate change, circular economy, pollution, biodiversity, and deforestation.

All Data 4 Green Deal is an EC funded project with the aim to:
Do research on the co-creation of the European Green Deal Data Space as an open space for FAIR data and standards-based services structured in 3 pilot cases providing testbeds in terms of data, standards, sharing and interoperability to support the key priorities of pollution, biodiversity and climate change.
The pilot on biodiversity is about Terrestrial Connectivity.

- **Legally protect at least 30%** of the EU's land area.
- **Strictly protect** at least a third of the EU's protected areas - representing **10% of the EU land** - including all remaining primary and old-growth forests as well as other carbon rich ecosystems.
- **Create and integrate ecological corridors** as part of a **Trans European Nature Network** to prevent genetic isolation, allow for species migration and to maintain and enhance healthy ecosystems.
- Effectively **manage all protected areas**, defining clear conservation objectives and measures, and monitoring them appropriately.



Convention on Biological Diversity

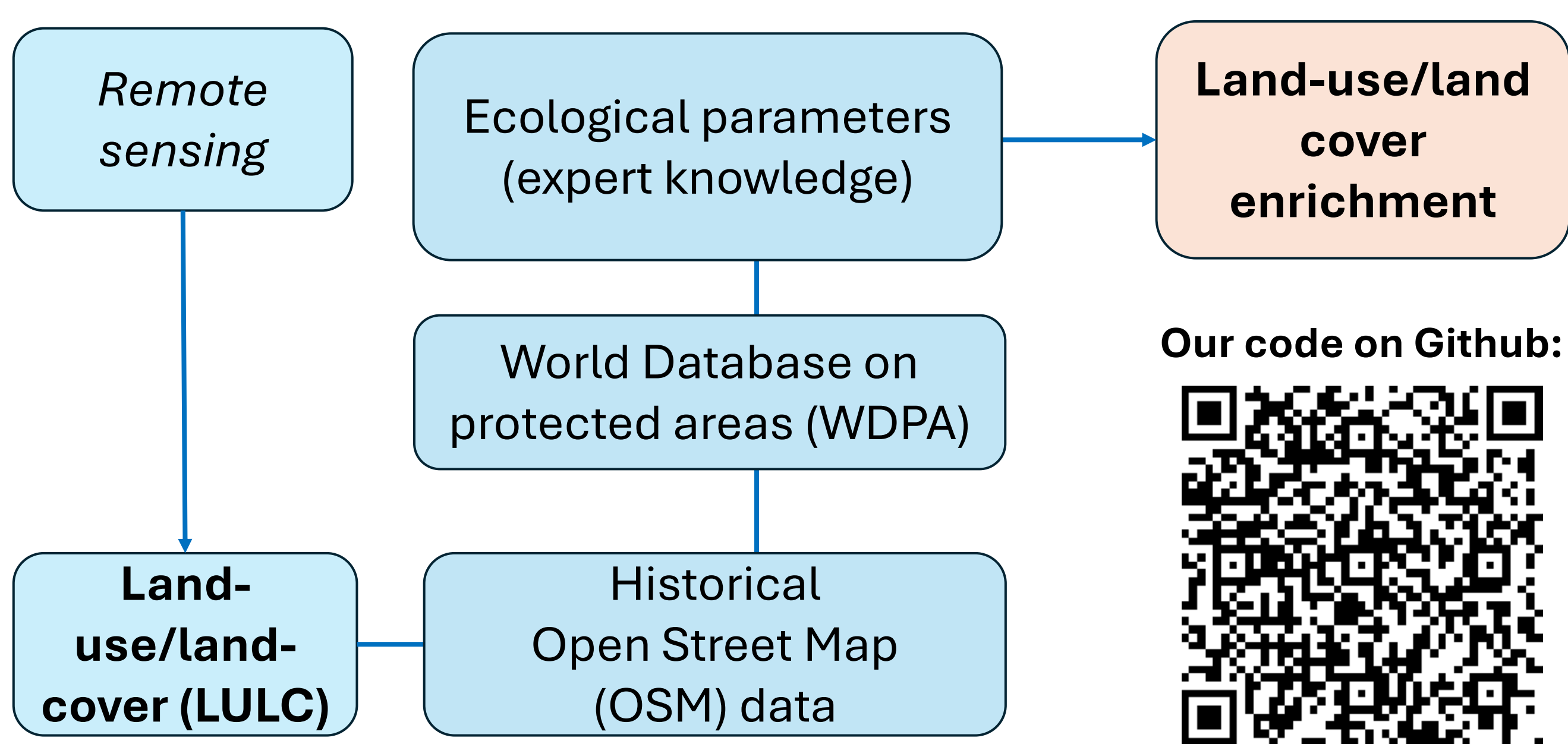
Goal A. The integrity of all ecosystems is enhanced, with an increase of at least 15% in the area, connectivity and integrity of natural ecosystems.

- Milestone A.1. Net gain in the area, **connectivity** and integrity of natural systems of at least 5%.

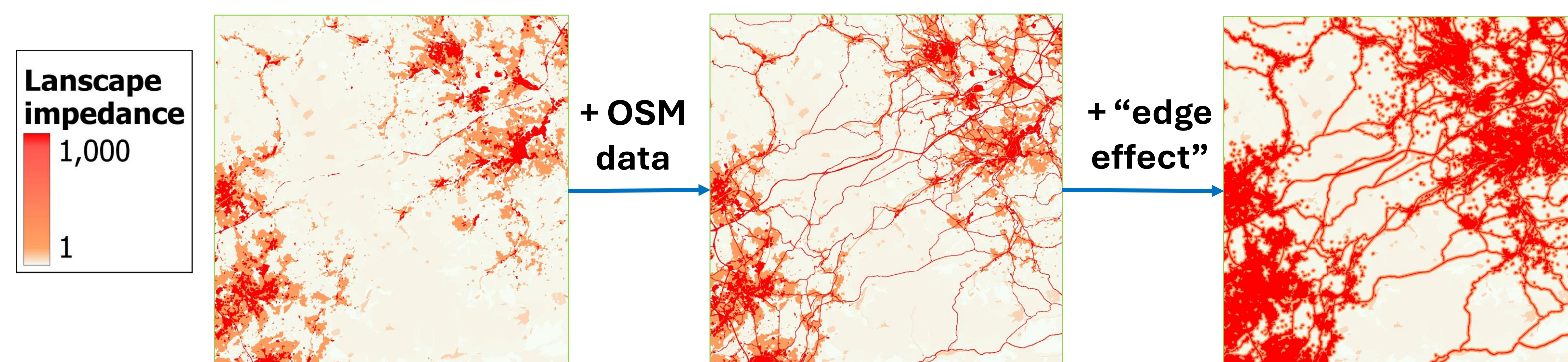
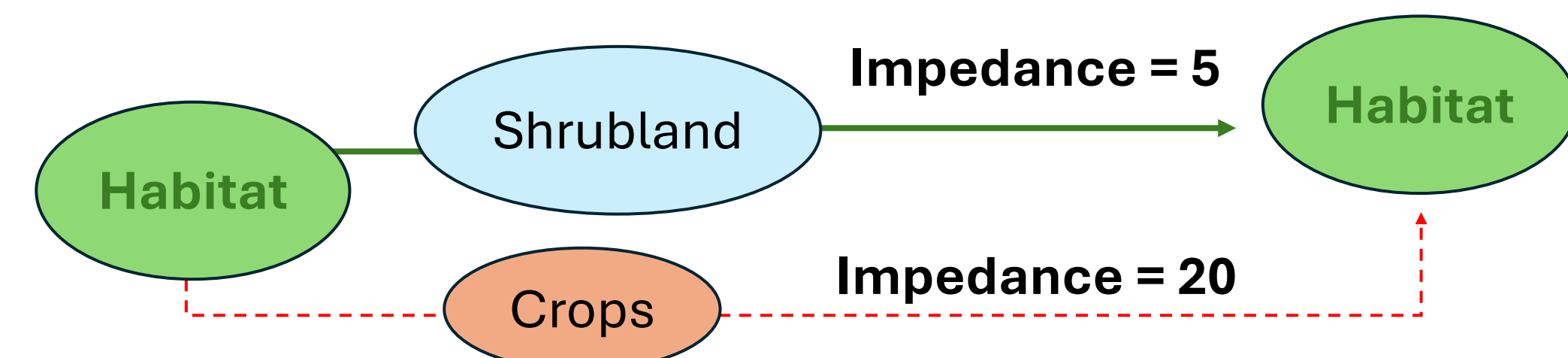
Target 2. Ensure that at least 20% of degraded terrestrial ecosystems are under restoration, ensuring **connectivity** and focusing on priority ecosystems.

Target 3. Ensure that at least 30% of land areas, especially areas of particular importance are conserved, ecologically representative and **well-connected systems of protected areas**.

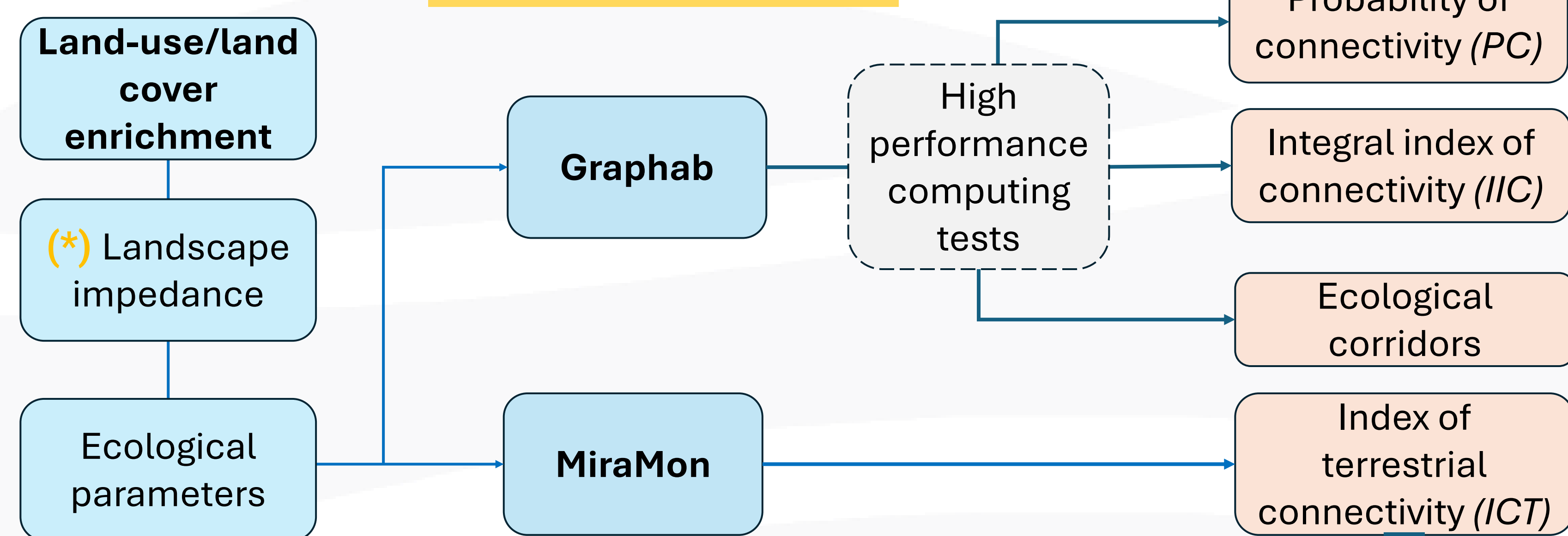
Preprocessing



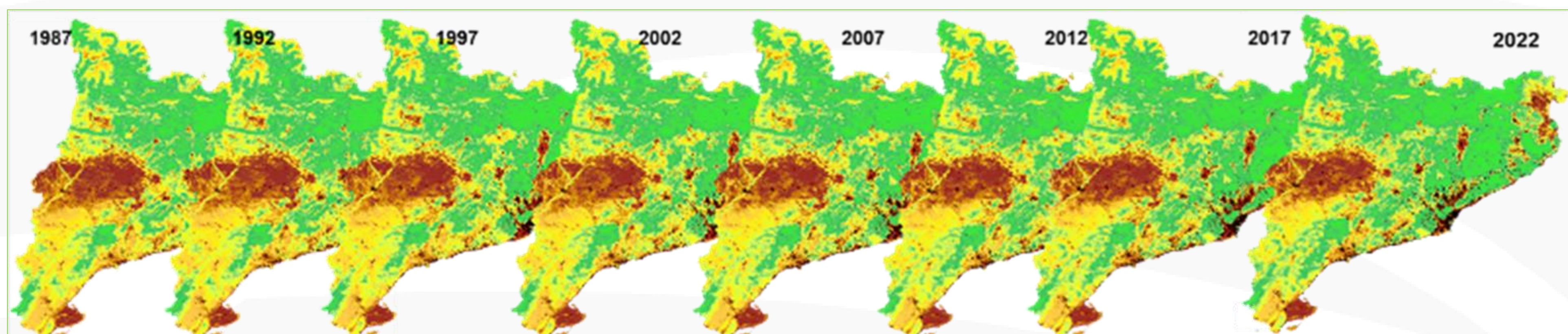
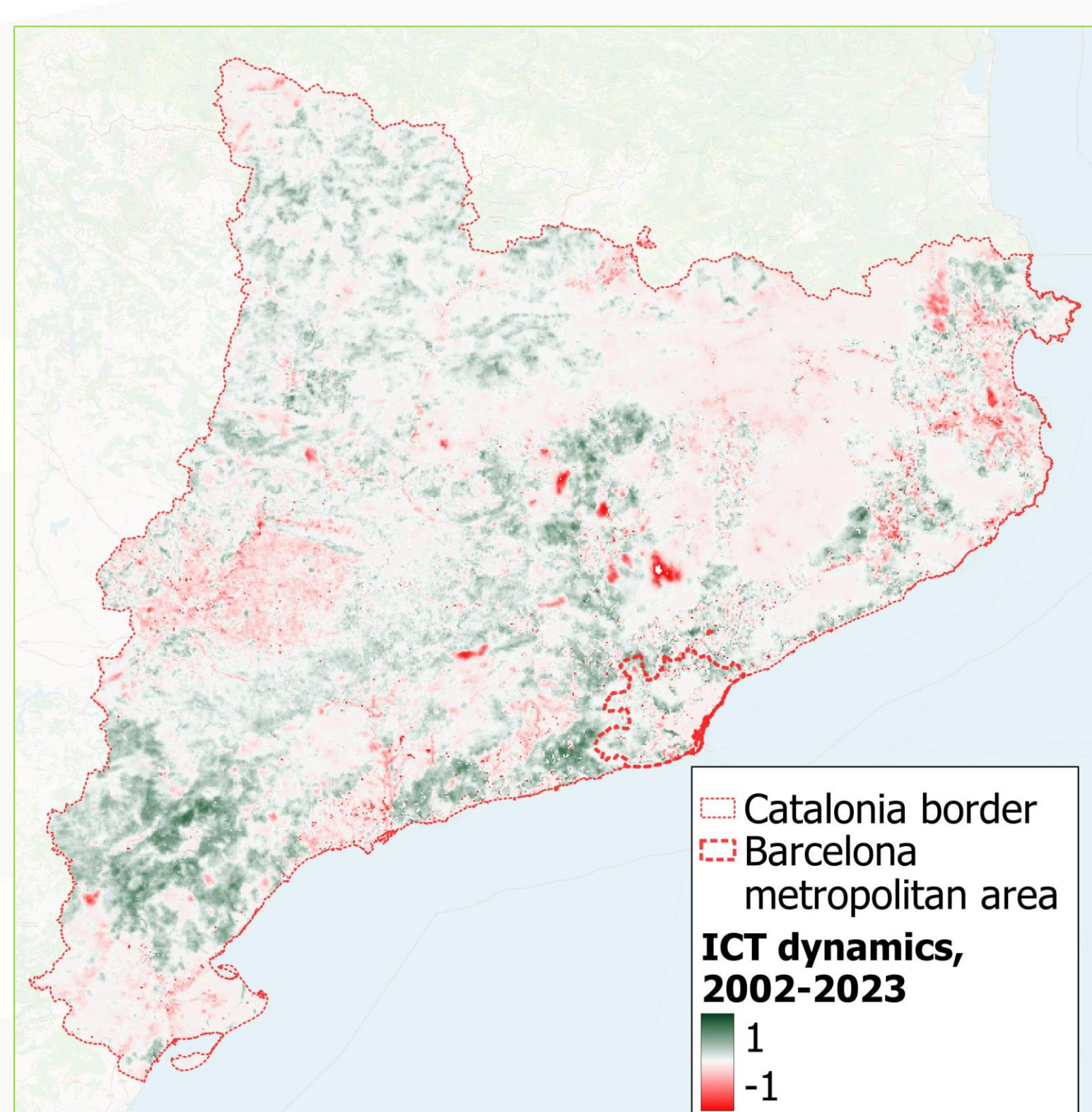
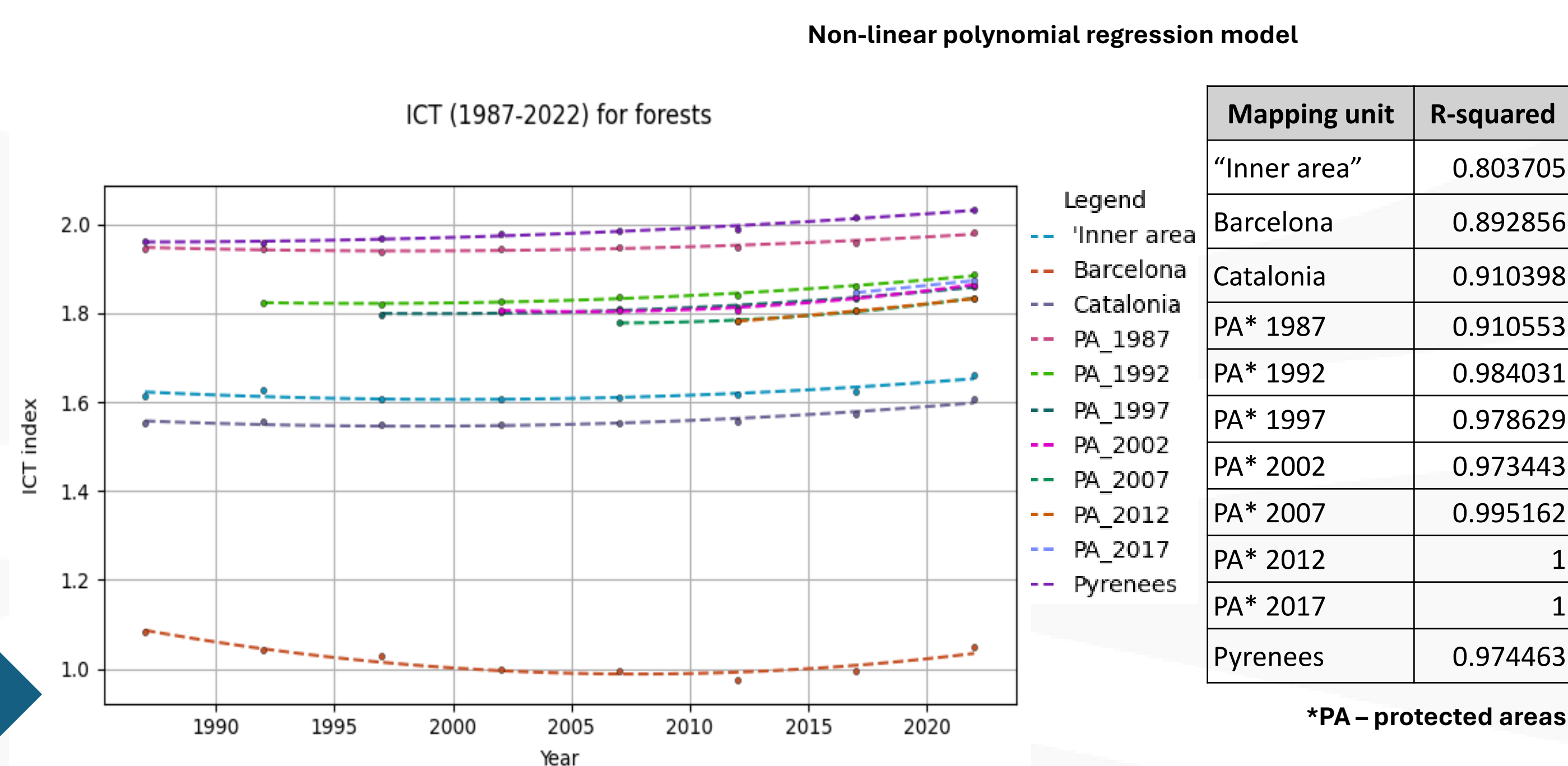
(*) Landscape impedance calculation
Remote sensing + expert knowledge



Processing



Forest connectivity: trends



Scan and listen!