



CCI25: Land Use Change

Meeting of CORMON on Coast and Hydrography
Rome, Italy, 21-22 May 2019

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Definition

Land use change is the change of purpose to which land is profited by humans (e.g. forestry for timber products, plantations, row-crop agriculture, pastures or human settlements).

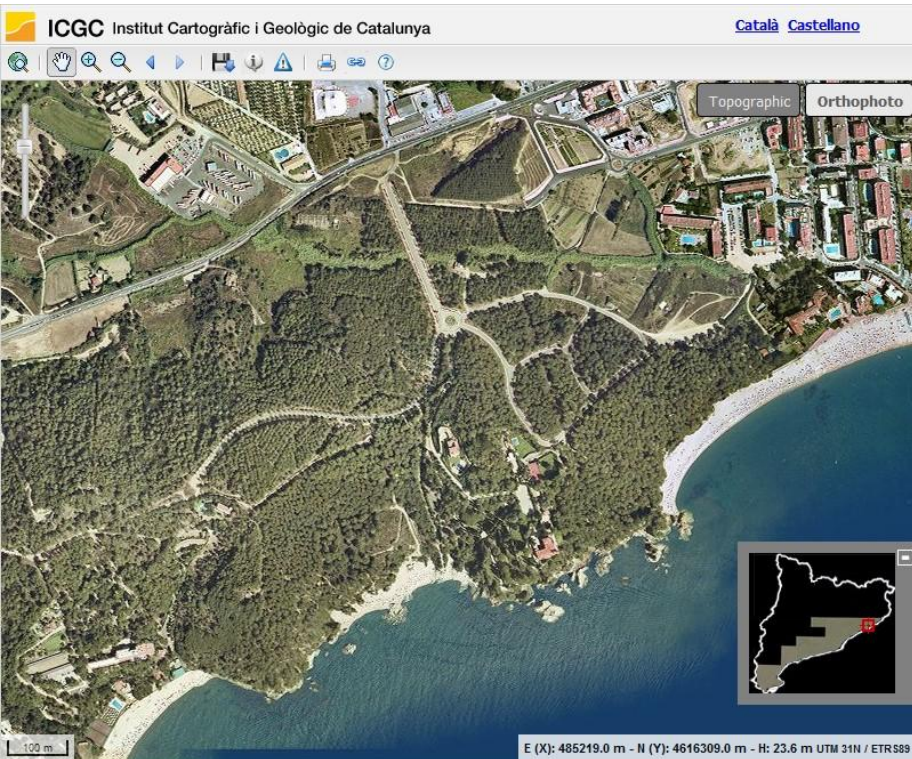
Land cover change is the change of the ecological state and physical appearance of the land surface (e.g., closed forests, open forests, grasslands).

Focus on:

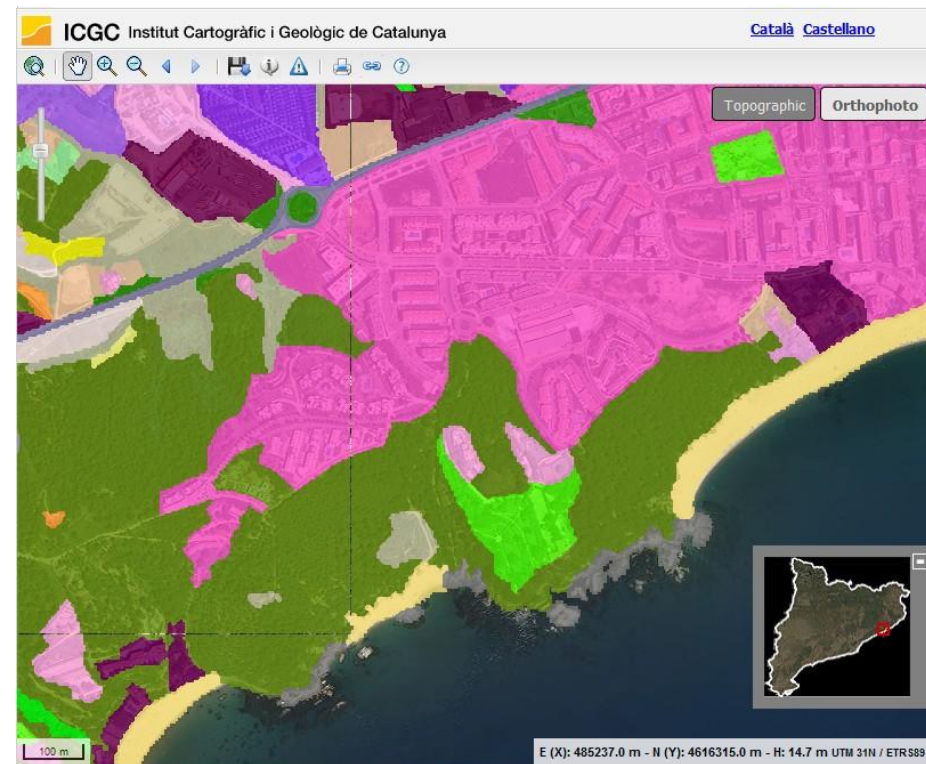
- **Amount** of change and **pace** of the process; where pressures are higher
- **Spatial** trends

Example of land use change (2000-2012)

Year 2000



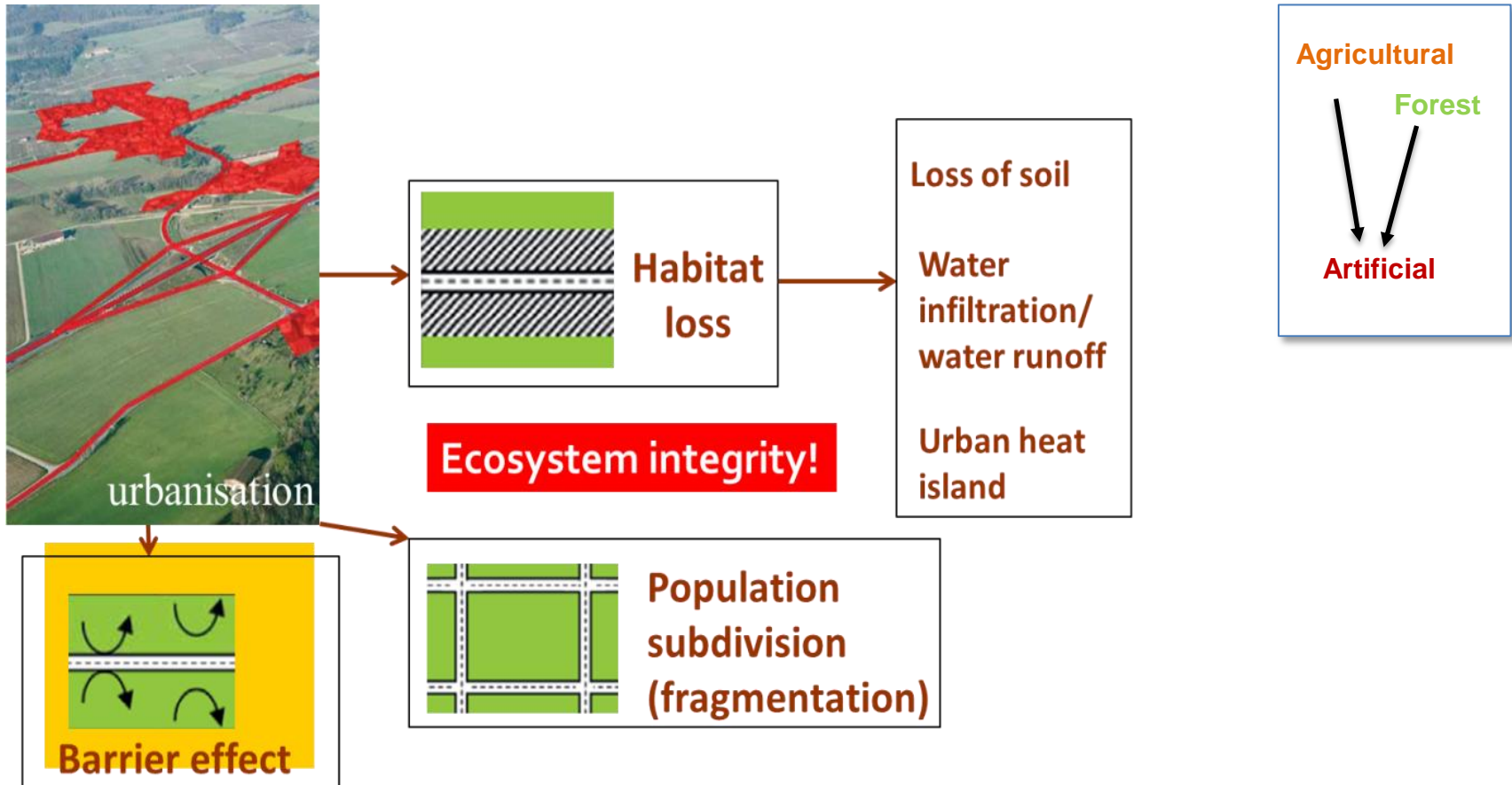
Year 2012



Particularities of land use change indicator

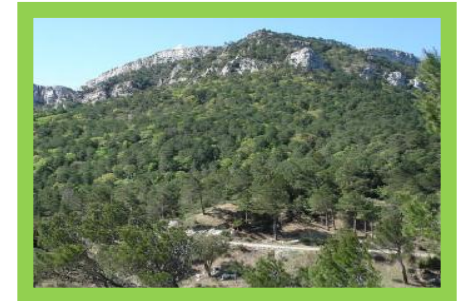
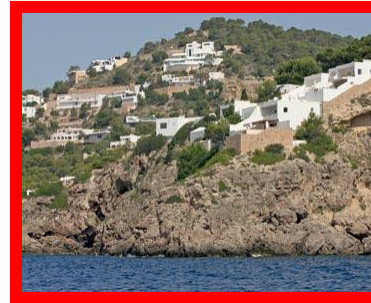
- Focus on the land side
- Diverse land use changes have different impacts (either positive or negative)
- There is not a unique ideal combination of land uses that ensures GES.

Negative impacts (land take)



Land use classes

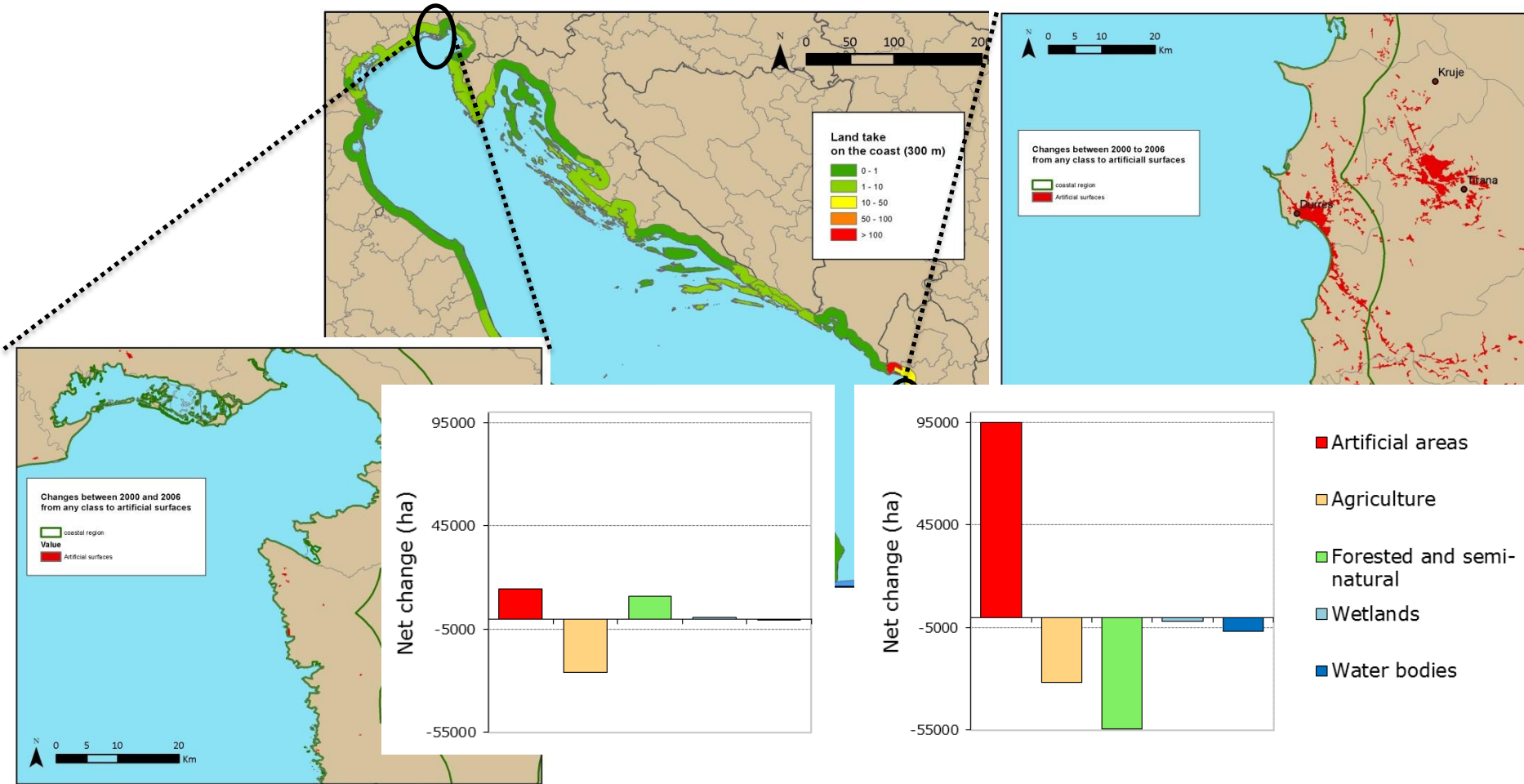
- Artificial surfaces
- Agricultural
- Forest and semi-natural
- Wetlands
- Water bodies



- Protected areas

(Natura 2000, IUCN or national-specific categories with the objectives to protect biodiversity, habitats, species, landscapes and alike in coastal zone)

Land use change in practice (2000-2006)



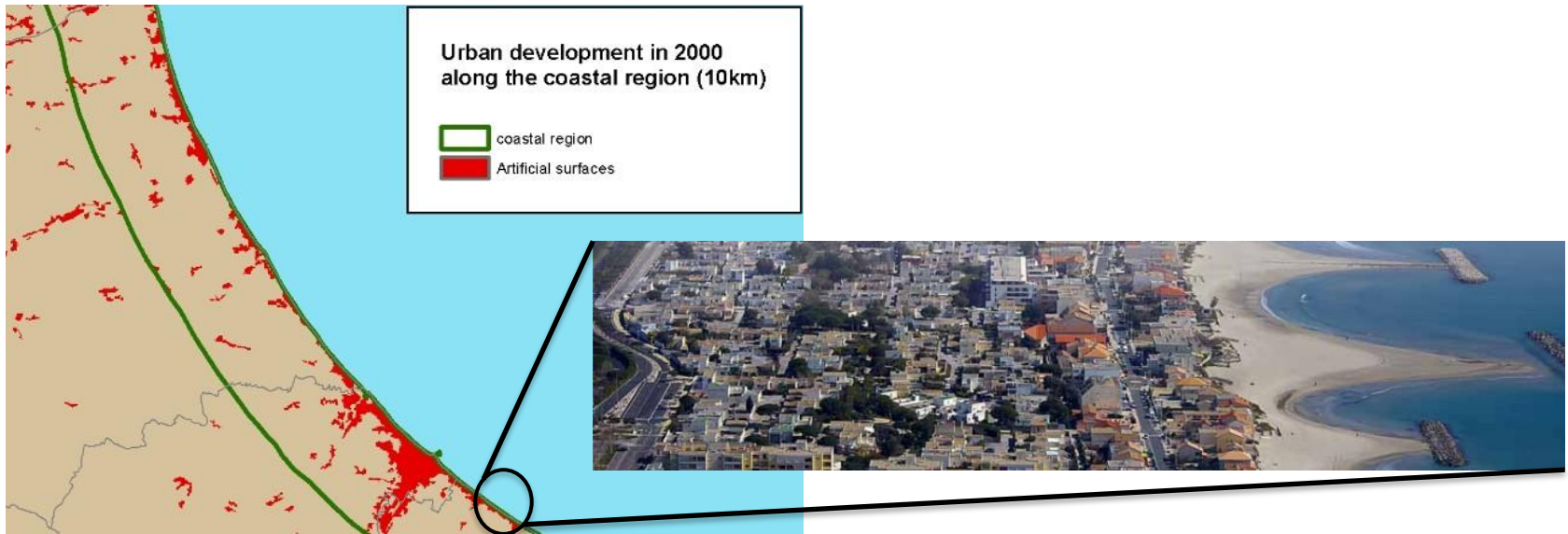
What is the GES for land use indicator?

Difficulty to establish a clear quantitative GES boundary (e.g. an increase of 5% land take is 'in GES' or 'not in GES'?)

This indicator needs a different approach, it cannot be classified according to a numeric threshold.

Linking **changes** to **potential impacts** provides an indication if we are moving to the right direction (improving GES).

What is the GES for land use indicator?



ICZM compliant?

...No further construction within the
setback zone...

Definition of GES

Relevant GES definition	Related Operational Objective	Proposed Target(s)
<p><i>- Linear coastal development minimised, with perpendicular development being in balance with integrity and diversity of coastal ecosystems and landscapes.</i></p> <p><i>- Mixed land-use structure achieved in predominantly man-made coastal landscapes</i></p>	<p><i>Integrity and diversity of coastal ecosystems, landscapes and their geomorphology are preserved.</i></p>	<p><i>Proposed targets should be considered as general recommendations to be adapted to regional/local specificities and knowledge.</i></p> <p><i>- No further construction within the setback zone</i></p> <p><i>- Change of coastal land use structure, dominance of urban land use reversed</i></p> <p><i>- Keep, and increase, where needed, landscape diversity</i></p>

- Targets and measures proposed in the Indicator Fact Sheet are general recommendations
- Should be adapted to regional/local specificities and knowledge by the CPs (socio-economic, historic, cultural etc criteria).

What is the GES for land use indicator?



Unplanned development

Planning with an ecosystem perspective



Degraded and unproductive



Healthy and productive

Source: Adapted from Angelidis, M. PERSEUS First training school for the promotion and application of EU Environmental Policy Frameworks in non-EU Mediterranean and Black Sea countries, Chios, 4-8 June 2012

Not in GES

Leading to GES

Definition of reporting units, spatial and temporal scope

Reporting units

Land part of the coastal zone as defined by the Contracting Party (Article 3: competent coastal units).

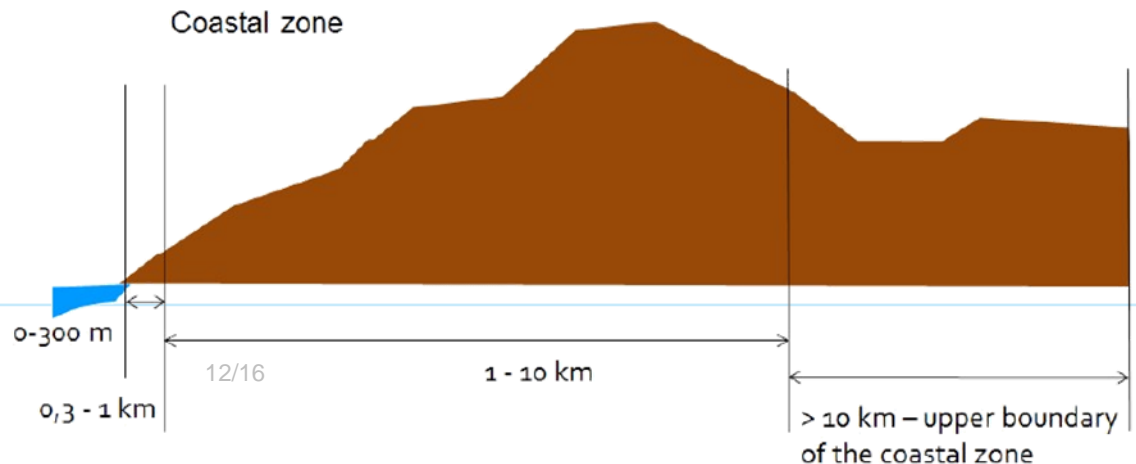
Spatial scope

Minimum mapping unit of 25 ha and 100 m of linear elements

Minimum change detection 5 ha

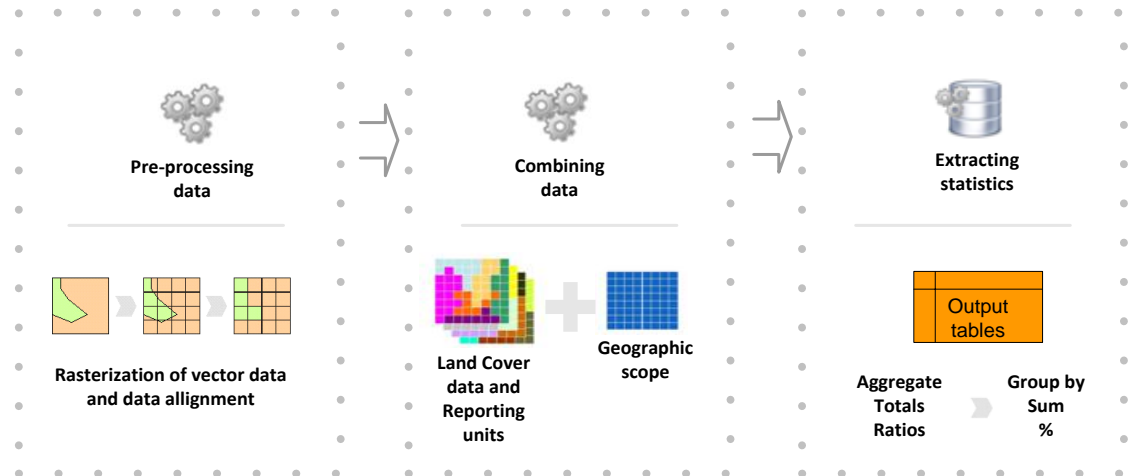
Temporal scope

5 years



Parameters to be calculated

- Standard GSI processing
- Percentage of land use classes
 - Share of different classes
 - Distribution in different coastal units
- Land take (built-up areas)



Data availability

- There is no common land-use map of the Mediterranean region.
- Linear elements are not well captured by open-source land-use maps.
- The continuity of global LU products in time is not always ensured and/or they offer incompatible temporal analysis.
- Sentinel satellites (Copernicus programme) provide high resolution (10 m) satellite imagery freely available. Ensuring continuity and reliability.

Proposals

- Title: Land use change or Land cover change?
- Protected areas added
- Include the candidate indicator in the IMAP List of common indicators



Thank you

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