



High-resolution crops maps derived from Earth Observation: a new resource for ecosystem accounting in agricultural areas

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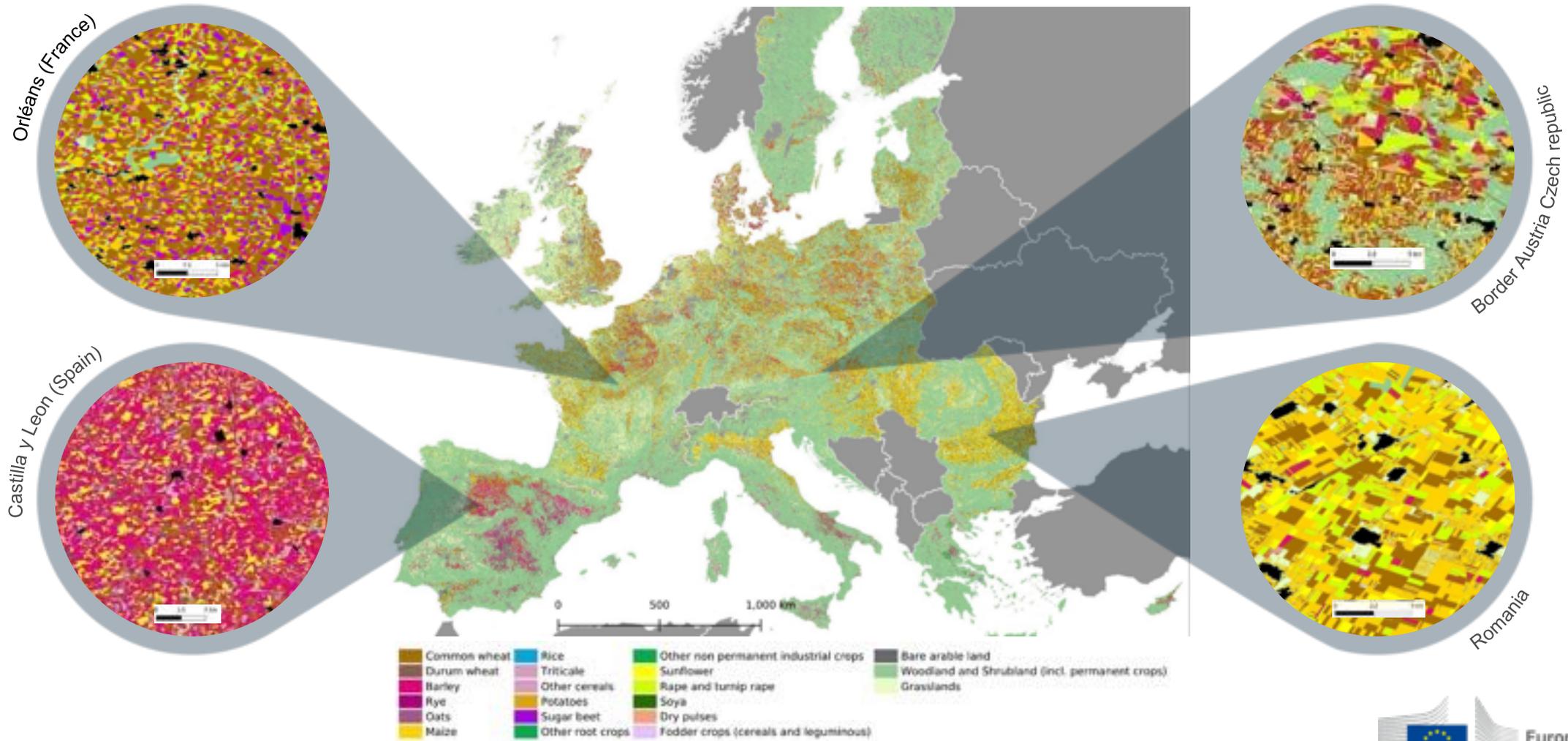
Ecosystem condition

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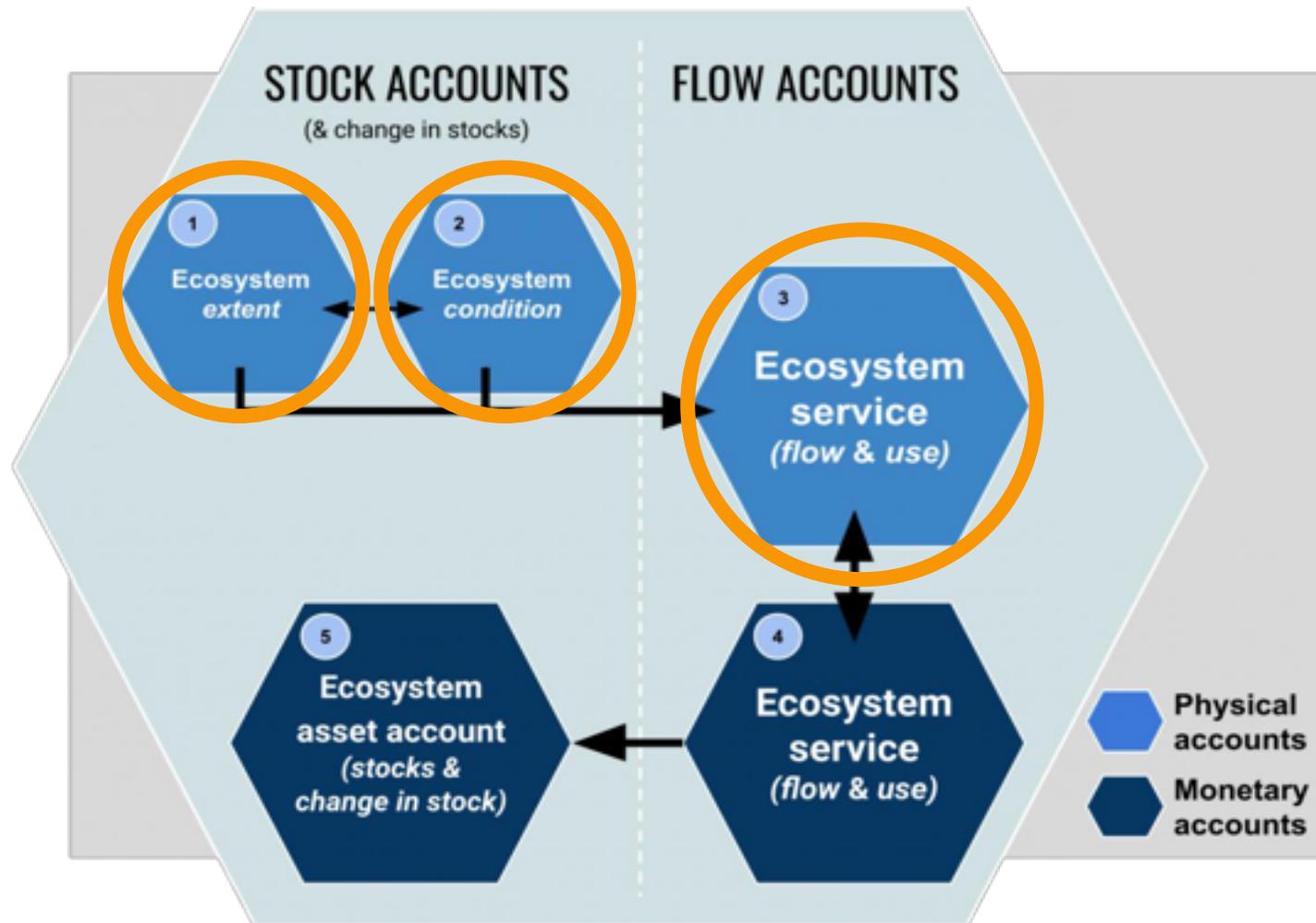
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EU CROP MAP

The first validated 10-m crop type map for the European Union obtained from radar satellite

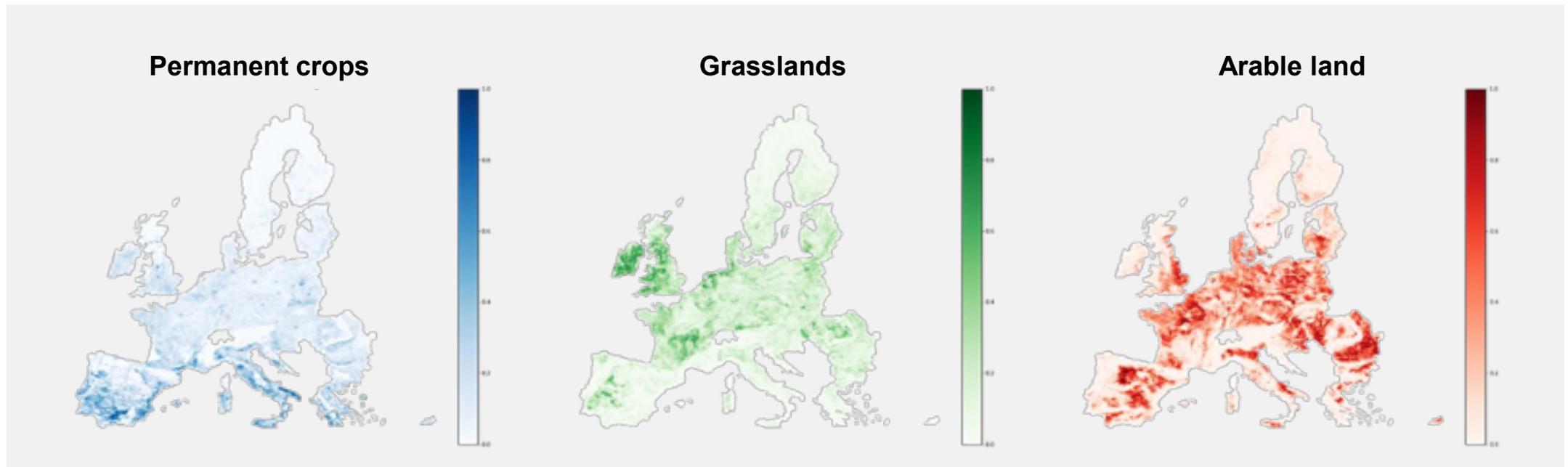


Crop type mapping for EA



Crop type mapping for EA: Ecosystem extent

Crop maps can be used as **data source** for distinguishing **ecosystem subtypes** in agroecosystems

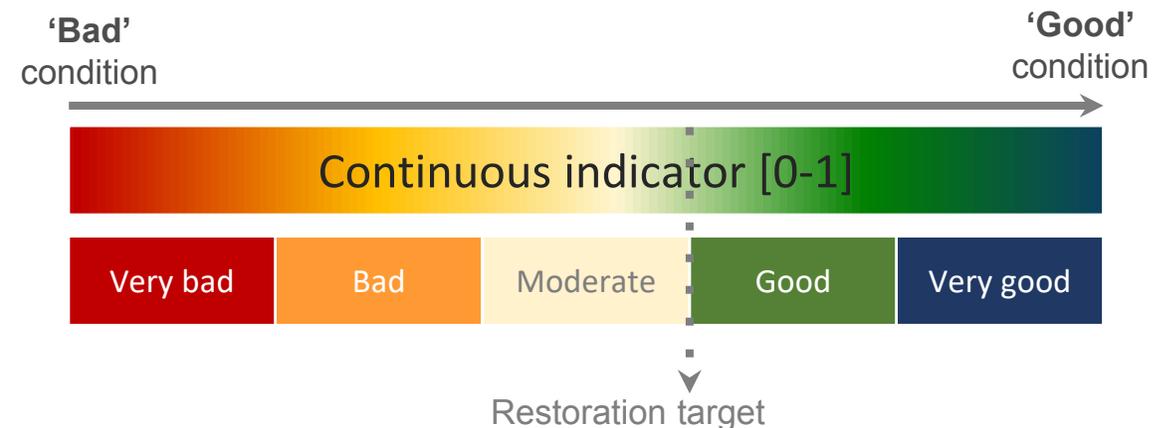


Share of agroecosystem subtypes

Crop type mapping for EA: Ecosystem condition

Crop maps can be used to derive **variables to describe the condition of agroecosystems:**

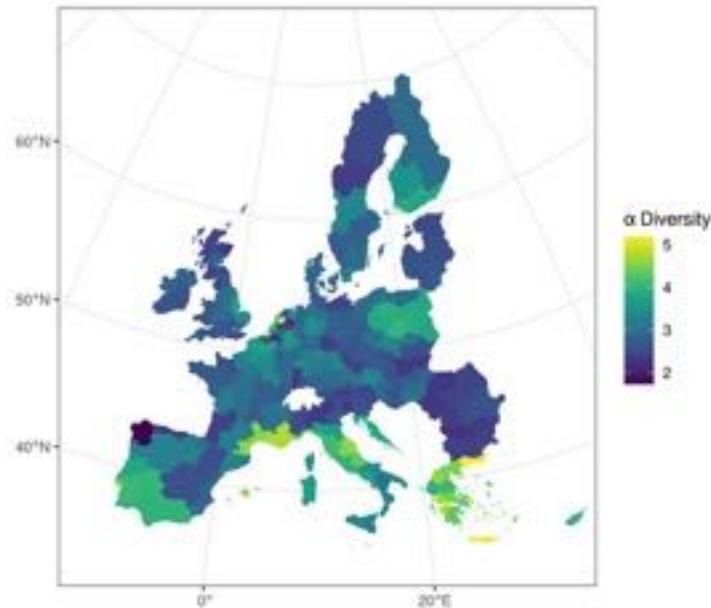
- not ES *per se*, but influence the delivery of multiple ES
- can give a *consensual normative description* of the quality of the ES



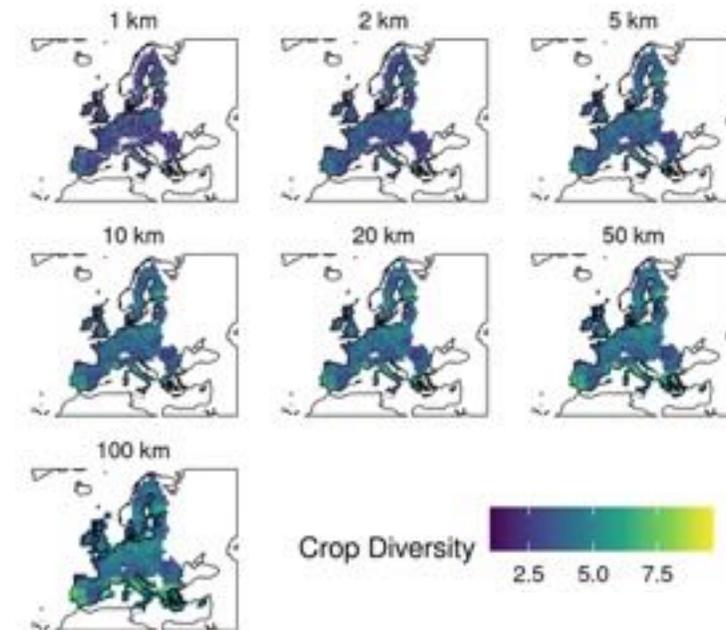
Crop type mapping for EA: Ecosystem condition

Crop diversity represents the variety of crops in an agroecosystem

- Spatial diversity of crop types over a unit area
- Temporal diversity: crop rotation



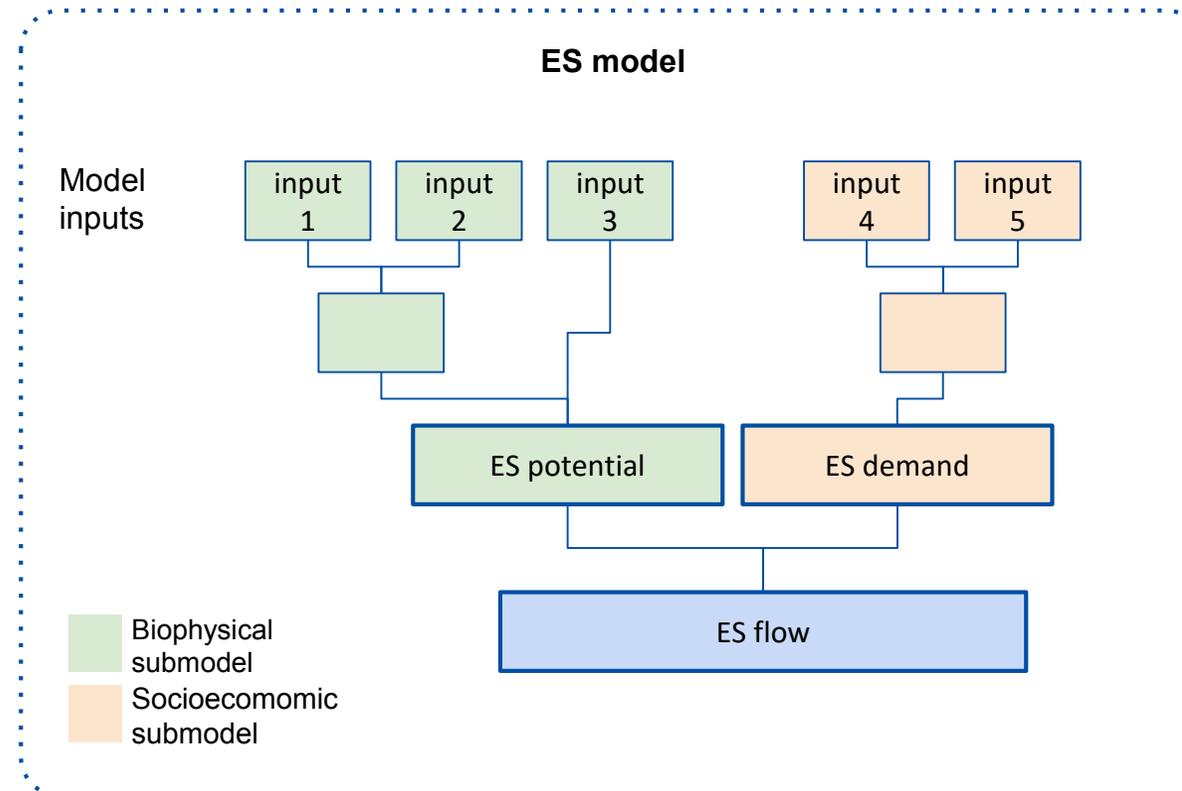
Mean alpha diversity across NUTS2 regions



Crop diversity across scales from 1km to 100km

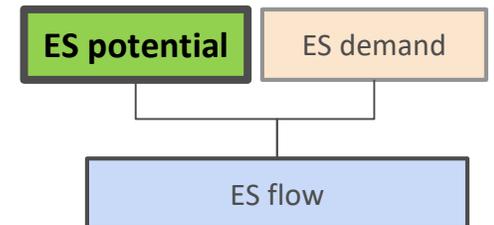
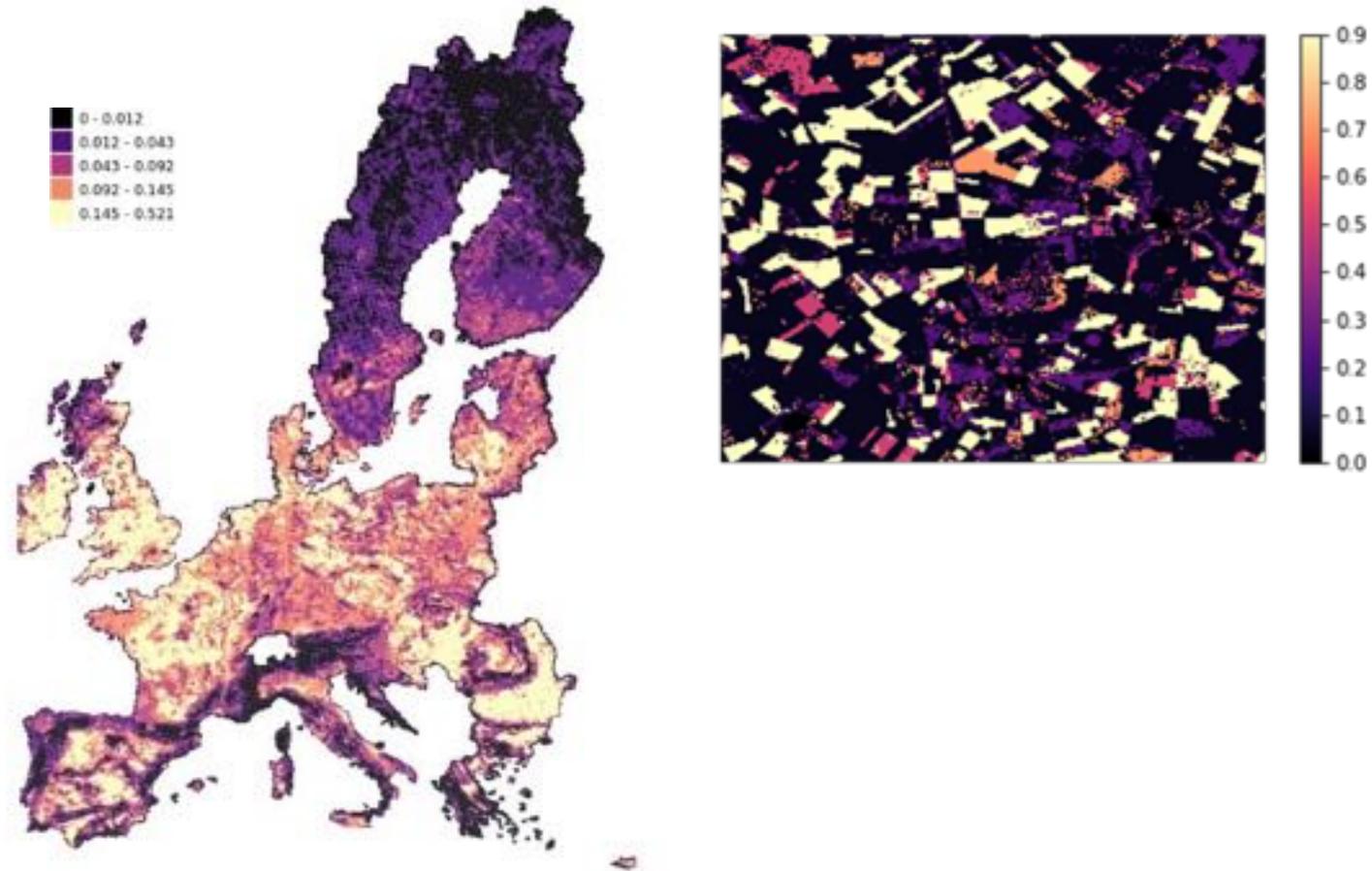
Crop type mapping for EA: Ecosystem services

Ecosystem services are typically assessed by complex models where **crop maps can provide important input variables**



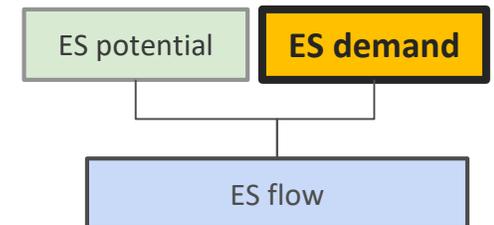
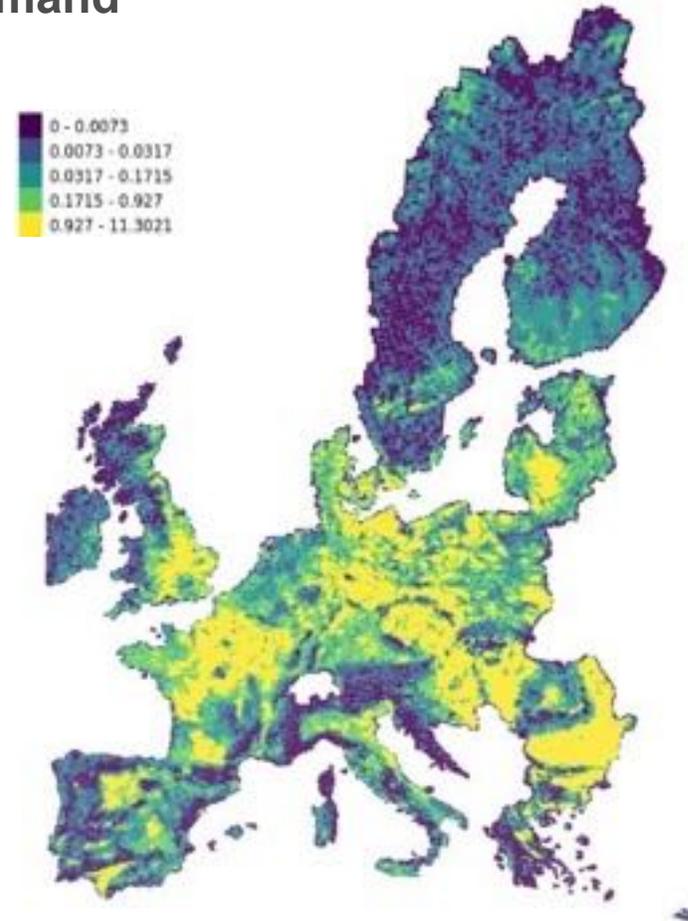
Crop type mapping for EA: Ecosystem services

Floral availability from arable crops



Crop type mapping for EA: Ecosystem services

Arable crop pollination demand



Final remarks

- Satellite EO can be used to derive high-resolution crop type maps at continental level. These maps are key to support policy implementation and monitoring.
 - The Copernicus HRL-VLCC (High Resolution Layer - Vegetation Land Cover Component) will provide annual crop type maps making the proposed approach operational in the future.
- Crop type mapping can provide relevant inputs for SEEA EA biophysical accounts in agroecosystems.

Thank you for your attention

The information and views expressed in it do not necessarily reflect an official position of the European Commission or of the European Union.