AGFORWARD
Agroforestry for Europe

New agroforestry systems on European ecosystem deficit farmland can compensate up to 43% of agricultural GHG emissions

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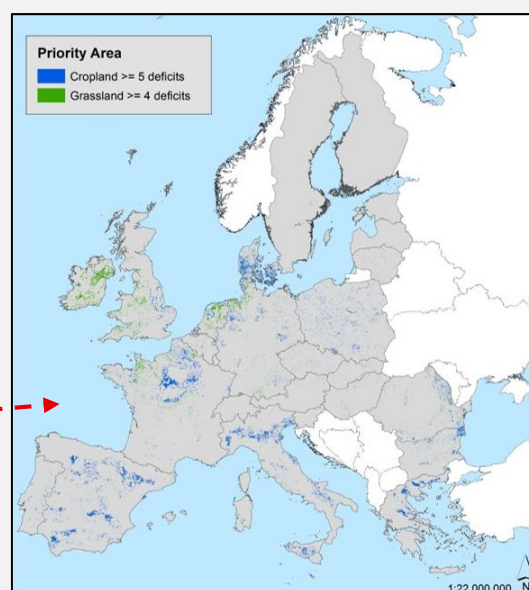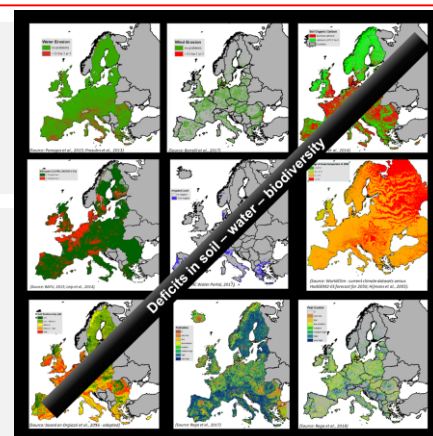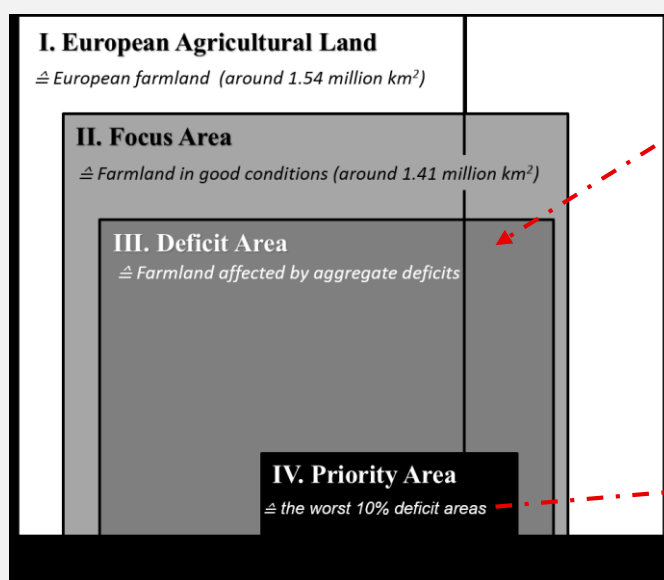
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Introduction: Landscapes with a high share of agroforestry provide more regulating ecosystem services than landscapes dominated by conventional agriculture. Yet, which type of agroforestry to recommend depends on local and regional conditions and there may be regions where there is a higher need for agroforestry than others.

Method and Results

1 Identify areas affected by environmental problems on European agricultural land (Deficit Area)

I. European Agricultural Land
≙ *European farmland (around 1.54 million km²)*

II. Focus Area
≙ *Farmland in good conditions (around 1.41 million km²)*

III. Deficit Area
≙ *Farmland affected by aggregate deficits*

IV. Priority Area
≙ *the worst 10% deficit areas*

Priority Area
- Cropland >= 5 deficits
- Grassland >= 4 deficits

1:22.000.000

2 Regional experts propose 64 appropriate agroforestry systems for the identified priority areas

Region	Type	Species	Trees ha-1	System	Crops	Tree Products
Mediter-ranean	Silvopastural single trees	Poplar; Peduncolate oak	57	lines	grass	foddertree, timber
Mediter-ranean	Silvoarable single trees	Fruit trees	417	lines	fodder crops	fruits
Atlantic	Silvopastural single trees	Poplar	25	boundary	grazing, hay, silage	timber
…	…	…	…	…	…	…

3 Assessing carbon storage potential - Implementing Agroforestry in **8.9 % of European Farmland** (= Priority Area) can store between **1.4 and 43 % of European Agricultural GHG emissions.**

Conclusion: The study provided an indication on where and which kind of agroforestry can mitigate the environmental problems in Europe. Agroforestry can contribute significantly to European climate targets of zero-emission agriculture and help to reach the ambitious European policy targets.

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