

The European Commission's science and knowledge service

Joint Research Centre



Soil Biodiversity for policy development

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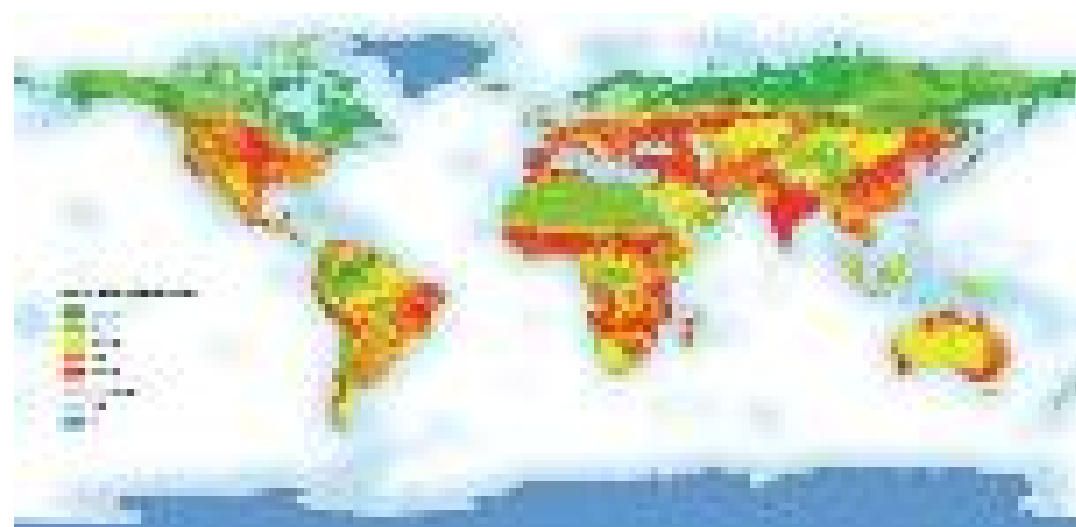
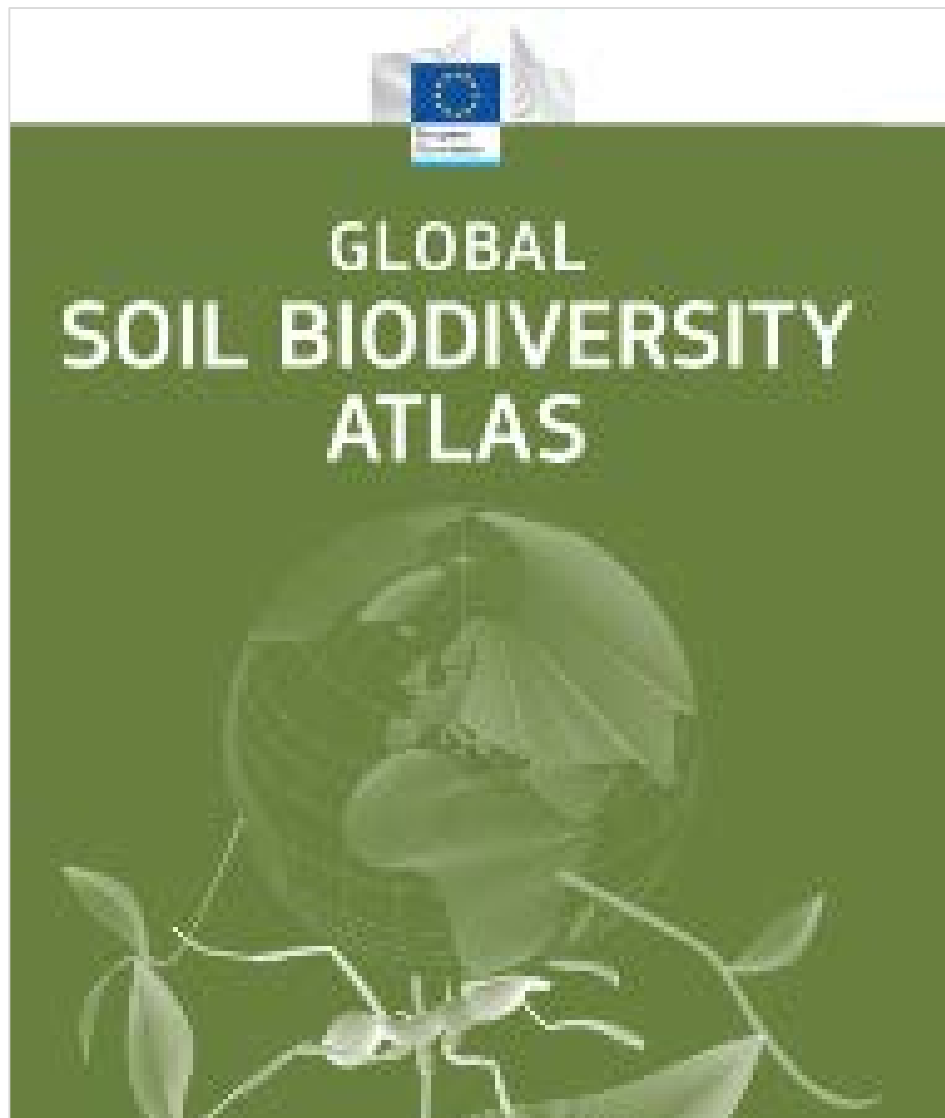
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SOILMAN Workshop, Brussels, February 2018



Soil biodiversity is the
driver of many
processes in soils

Protect the home of
biodiversity



Innovative assessments

Global Soil Biodiversity Atlas

40,000 downloads

4,400,000 views

National Geographic
tweet to 12,000,000

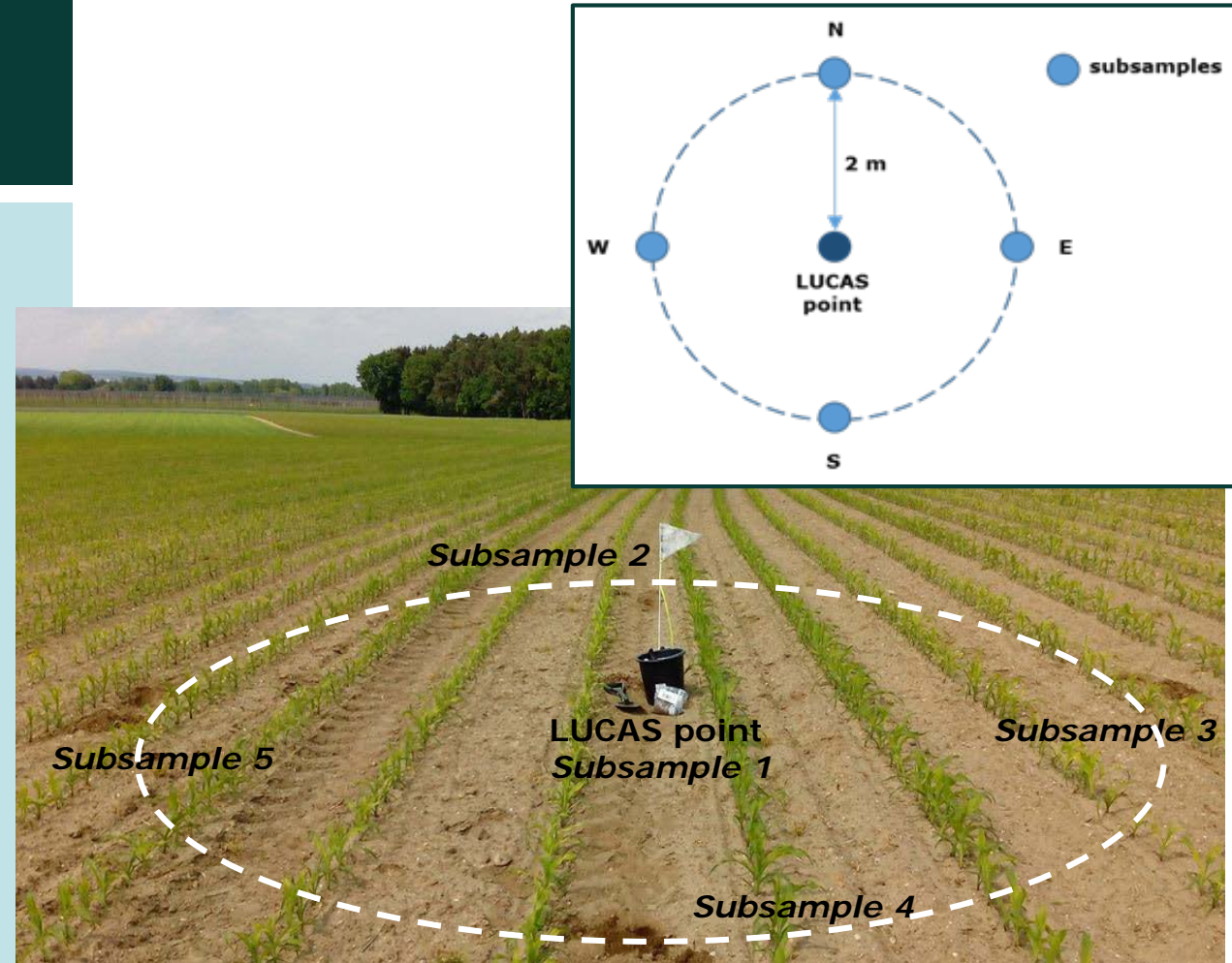
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High-level policy impact

LUCAS SOIL

- A **topsoil (0-20 cm) sample** per point: composite of 5 subsamples
- Approx. weight: 500 g (5 heaped trowels)
- Sampling equipment
 - Spade and trowel
 - Bucket
 - Meter stick
 - Plastic bags and ties
 - White labels
 - Box to store and transport samples



LUCAS Soil 2018

Soil biodiversity

- 1000 DNA metabarcoding
- Earth Microbiome project
- Microorganisms

...and the rest?



Sampling for biodiversity

Key aspects of the sampling:

- Work in **sterile conditions**
 - Use gloves for the sampling
 - Clean sampling material with water & alcohol wipes
- **Keep the sample cold**, with freezer packs in the polystyrene box
 - Put the freezer packs in the freezer the day before sampling

Sterile conditions



Keep the sample cold



Monitoring for biodiversity

To understand the potential of our soils to deliver soil functions and enable the formation of evidence-based policies to incentivize sustainable soil management, changes in provisioning of soil functions need to be monitored

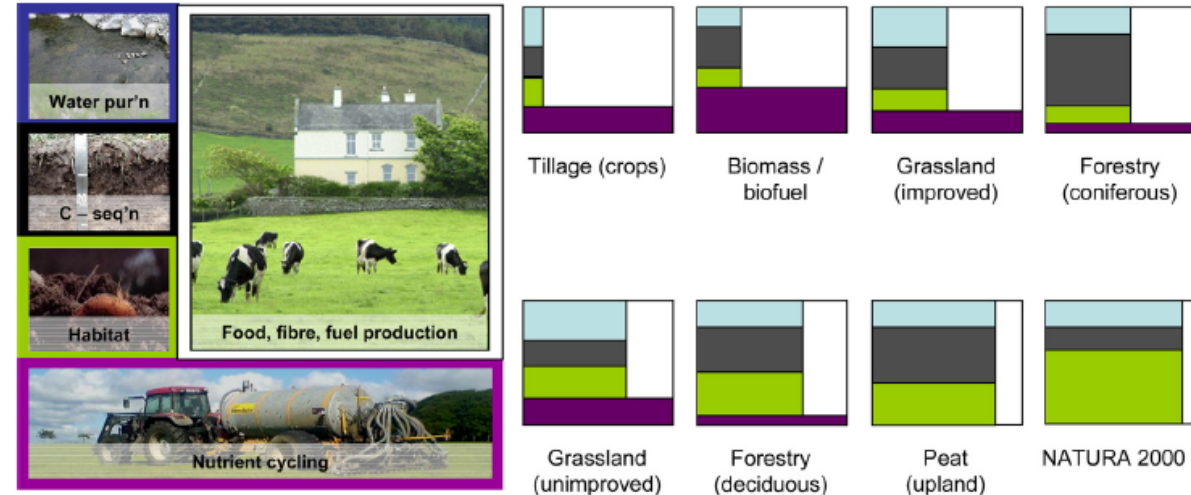
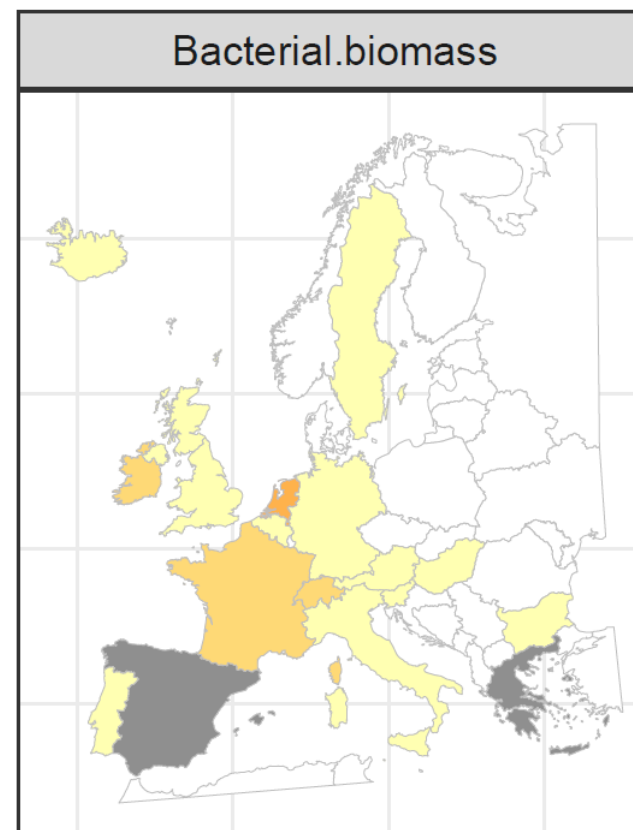
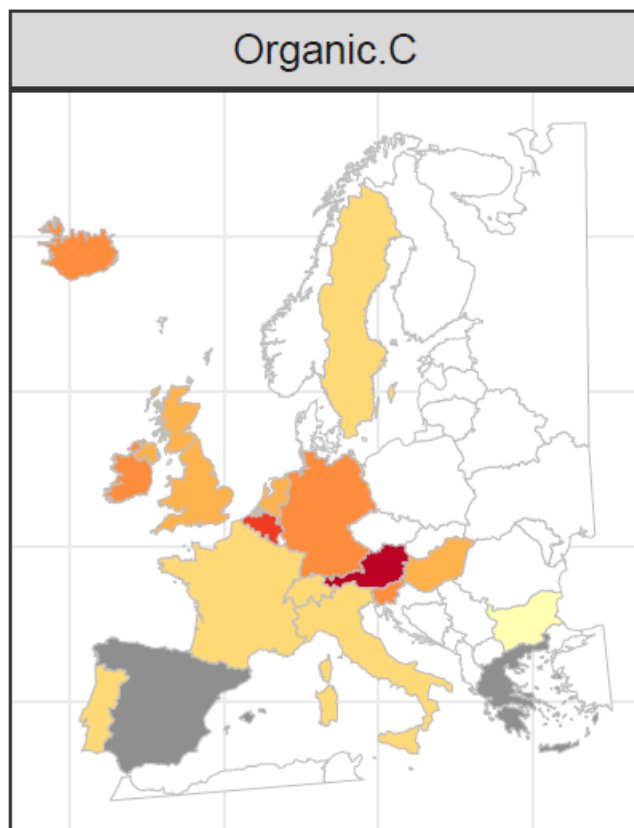


Fig. 1 – Freestyle illustration of typical suites of soil functions under contrasting land use types.

WHAT IS MEASURED WHERE?



Mapping and assessing (soil-based) ecosystem services

- MAES analytical framework links the state of European ecosystems to human well-being through the delivery of ecosystem services.
- development of a coherent analytical framework and associated indicators with the objective to promote consistent approaches at national and EU levels
- Soil pilot – condition report

