

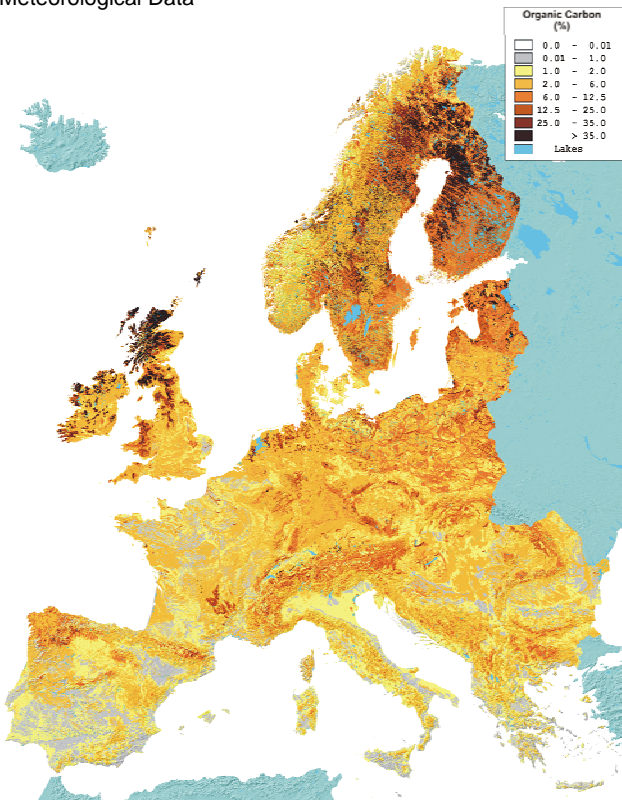


Climate Change: soil can make a difference!

Soil and Organic carbon: What we know

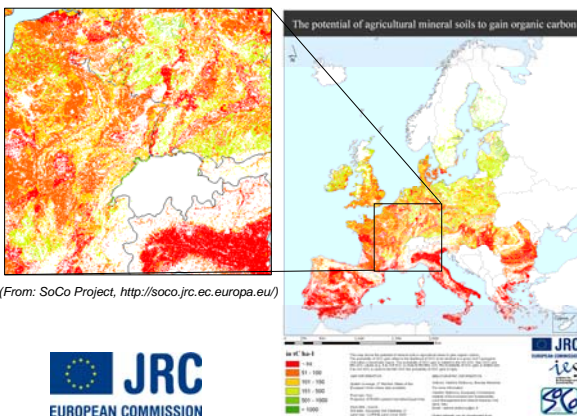
Carbon (C) sequestration in soils is gaining increasing acceptance as a means of reducing net carbon dioxide (CO₂) emissions to the atmosphere. The global quantity of carbon (C) present to a depth of 1 m in soil organic material (SOM) is about twice the 750 Pg present in the atmosphere as CO₂. Soil in EU contains about 71 GtC in the upper 30 cm and 140 GtC to a depth of 1 m, equivalent to 7% of the global soil carbon sink. These estimates have been based on several sources of data:

- European Soil Data Base
- Land Cover (mainly Corine)
- Meteorological Data



(From: Jones et al., 2004)

Land use change and the agriculture/forestry management, can determine losses or gain in soil carbon.

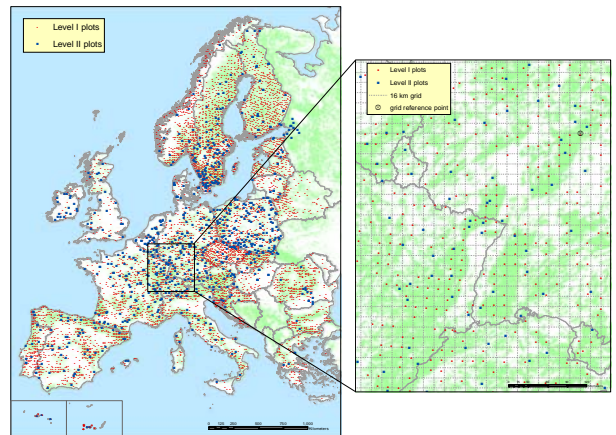


(From: SoCo Project, <http://soco.jrc.ec.europa.eu/>)

Ongoing activities

Biosoil

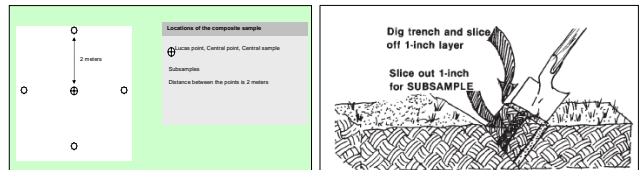
The aim of Biosoil project is to realise the first monitoring step, characterising soil chemical properties (organic carbon content among them) and forest biodiversity on a selection of the Level I and Level II plots of the Forest Focus network.



(From: Durrant Houston, 2008)

Lucas

During 2009 soil samples will be collected from 10 % of the LUCAS sample points, which is approximately 20,000 points across 23 Member States. On these samples organic carbon content, as well as other chemical and physical parameters will be determined.



(From: <http://www.uaf.edu/ces/publications/freepubs/FGV-00044.pdf>)

Soil Biodiversity, the Carbon Cycle and Global Warming

Soil biota are responsible for several stages of carbon cycle, from carbon fixation via photosynthesis, to CO₂ release due to organic matter decomposition. Furthermore also the emission of other greenhouse gases is mediated by soil organisms.

With the aim of investigating the relationships between soil biodiversity and soil functions, and to evaluate the possible threats on soil biodiversity, a Working Group has recently been established at JRC.

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