

# **Carbon sequestration in soils**

## **and its natural and anthropogenic driving factors**

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Soils are a thin and vulnerable skin on the Earth's surface and perform a number of vital functions. Soils are at the base of agricultural and forestry production; they buffer, filter and transform environmental pollutants; they provide habitat for an enormous diversity of organisms; they moderate the hydrological cycle; and they store large amounts of carbon. Soil formation is affected by several natural factors including parent material, climate, vegetation, topography and time; but also humans have exerted an ever increasing impact on soil resources. Accordingly, the sequestration of carbon in soils is impacted by the above-mentioned natural factors, notably climate, as well as by human land use and management. Intensive cropping has depleted the soils' natural store of carbon. However, management options are available that foster the sequestration of carbon while assuring adequate crop production; in this context, reduced tillage and the recycling of organic residues and waste materials are important strategies.