



Soil organic carbon of European forest soils: current stock and projections under climate change conditions

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Soil organic carbon (SOC) represents the largest terrestrial carbon pool, and it is subjected to climate change impacts. In Europe, a limited number of studies makes a wide-scale comparison of SOC stock and changes under climate change conditions, and most of them are related to agricultural soils. In this work, the SOC stock of the forested areas of Europe (obtained from the CORINE 2006 Land Use Map) was assessed at 1 km resolution using the agro-ecosystem SOC model CENTURY. The results of the model were compared with independent observational datasets (i.e. LUCAS Topsoil Survey Database). In addition, climate simulations (RCPs 4.5 and 8.5) using the CMCC (Euro-Mediterranean Centre on Climate Change) and the CORDEX dataset were used to estimate the SOC changes of these areas under climate change conditions.