



Land use form affects the soil carbon pool – Case study Austria

Robert Jandl

Forest Research Center (BFW), Vienna, Austria (robert.jandl@bfw.gv.at)

We investigated the difference in soil carbon stocks under different forms of land use for different regions in Austria and compared the obtained values with default values provided by the IPCC. The investigation was started in the context of the national greenhouse-emission reporting requirements. Land-use change is taking place at numerous sites, often when marginal agricultural land is converted to forest. The consequence for the soil carbon pools is not necessarily clear. Nevertheless, changes in land management can affect the soil carbon stocks strongly and for a long time. We harmonized soil data from different sources. We found the highest carbon stocks in forests on dolomitic bedrock. Carbon stocks in forest soils on silicatic bedrock were statistically indistinguishable from grassland soils. Cropland soils had the lowest soil carbon pools. Our data quality represents a Tier 2 approach. Our regionally valid data showed a wide scatter around the default data that are used in a Tier~1 approach of reporting.