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Bodenerosion

Autoren
P. Saggau
CAU Kiel, Landschaftsökologie und Geoinformation, Kiel

Titel
Actual Soil Erosion Risk for Germany. An approach to assess large-scale water erosion risk based on the Universal Soil loss Equation

Abstract
Soil erosion by water is one of the major threats to soils in Germany, with a negative impact on ecosystem services, soil fertility, water quality and an uncertain effect on carbon stocks. The assessment of at risk areas in soil erosion at large scales is an important task for effective policy management on soil security. However, large-scale assessments for water erosion are still a challenge due to the lack of homogeneous, preferably high-resolute data, especially for the integration of agricultural management. The Universal Soil Loss Equation (USLE) has been proven to be a practical and comparatively robust model for simulations of soil erosion risk maps for Germany. Furthermore, it tolerates the easy integration of management data, which can be obtained for Germany from the Agricultural Atlas, enabling a better consideration of the management-induced impact (C-factor) on soil erosion on community-level. This study presents the application of the USLE to create large-scale soil erosion risk maps for Germany by using the most recently available datasets and the integration of the Agricultural Atlas in order to estimate the C-factor. Statistical analysis on different hierarchical levels represent the extent of the actual soil erosion risk for Germany, contribute to a better conception of political policies and thereby an effective implementation of soil conservation measures.
Keywords: actual soil erosion risk, water erosion, C-factor, Agraratlas, Germany