The new 2015 Soil Erosion map of Europe

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Modelling soil erosion in European Union is of major importance for agro-environmental policies such as the Common Agricultural Policy (CAP) and the Soil Thematic Strategy. Policy makers request for a quantitative assessment of soil loss rates at European level. The 2015 soil erosion map of Europe input factors have been modelled with the most recently high resolution available datasets in European Union. Even RUSLE has been applied before at this continental scale, the difference is the advanced quality of the estimation as we introduced up-to-date (2010), high resolution (100m) and peer reviewed input layers. The rainfall erosivity dataset (R-factor) has been implemented using high temporal resolution (30 minutes) rainfall data from 1,541 precipitation stations well distributed in Europe. The soil erodibility (K-factor) is modelled using the recently published LUCAS topsoil database with 20,000 point measurements and incorporating the surface stone cover. The cover-management (C-factor) incorporates crop statistics and management practices such as cover crops, tillage practices and plant residuals. The slope length and steepness (combined LS-factor) is based on the first ever 25m Digital Elevation Model (DEM) of Europe. The support practices (P-factor) is modelled for first time at this scale taking into account the Good Agricultural and Environmental Condition (GAEC) that farmers have to follow in Europe and the 270,000 LUCAS earth observations. The results have successfully verified with national estimates provided by the Member States through the EIONET network. The new soil erosion map allows policy makers to run future land use, management and climate change scenarios.