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Evaluating the new soil erosion map of Hungary

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With growing concerns on the effects of climate change and land use practices on our soil resources, soil erosion by water is becoming a significant issue internationally. Since the 1964 publication of the first soil erosion map of Hungary, there have been several attempts to provide a countrywide assessment of erosion susceptibility. However, there has been no up-to-date map produced in the last decade.
In 2016, a new, 1:100 000 scale soil erosion map was published, based on available soil, elevation, land use and meteorological data for the extremely wet year of 2010. The map utilized combined outputs for two spatially explicit methods: the widely used empirical Universal Soil Loss Equation (USLE) and the process-based Pan-European Soil Erosion Risk Assessment (PESERA) models.
The present study aims to provide a detailed analysis of the model results. In lieu of available national monitoring data, information from other sources were used. The Soil Degradation Subsystem (TDR) of the National Environmental Information System (OKIR) is a digital database based on a soil survey and farm dairy data collected from representative farms in Hungary. During the survey all kind of degradation forms – including soil erosion – were considered. Agricultural and demographic data was obtained from the Hungarian Central Statistical Office (KSH). Data from an interview-based survey was also used in an attempt to assess public awareness of soil erosion risks.
Point-based evaluation of the model results was complemented with cross-regional assessment of soil erosion estimates. This, combined with available demographic information provides us with an opportunity to address soil erosion on a community level, with the identification of regions with the highest risk of being affected by soil erosion.