



Soil erosion risk mapping: how to explain the stakeholders what lies behind?

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Recent demographic projections of the impact of global changes point to the need of increasing food and biomass production to meet expected global demand. This issue is particularly complex as it must comply with an increasing awareness that environmental quality must be preserved. Increased production can be achieved through either an intensification of agricultural practices or an increase of cultivated areas. In both cases, significant adverse effects are expected in terms of land degradation and its ability to maintain sustainable agricultural productivity. In this context, soil degradation vulnerability assessment is becoming more and more integrated in land management planning. Soil erosion being one of the major causes of soil degradation, the demand for soil erosion risk maps is increasing. However, the 2D representation of a process that shows strong non-linear dynamics in space and time is far from trivial. Important assumptions on the way to integrate these heterogeneities in time and space have to be made. How to integrate the crop rotation calendar and the climatic seasonal variability at the yearly scale? Or, how to characterise the erosion vulnerability of a geographical space that combines areas having different erosion risks? Moreover, other important questions arise with the resolution and the uncertainties associated with the available input data. And, last but not least, the final map needs, not only to integrate all these issues, but, more importantly, to be understandable by public managers. In this paper we illustrate the different difficulties inherent to soil erosion mapping, taking an example in different catchments of the Loire valley in France and present possible options to the spatial integration of both temporal and spatial variations in erosion risk.