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Playing with LISEM: Experiences from Norway

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Reducing soil loss from agricultural land is an important environmental challenge that is of relevance for both the European Soil Thematic Strategy (EC 2002) and the Water Framework Directive (EC 2000). Agricultural land in Norway is scarce, covering only around 3% of the total land area (The World Bank, 2015), which puts stress on preserving soil quality for food production. Additionally, reducing sediment loss is a national priority because of associated transport of pollutants such as phosphorous, which can cause eutrophication in nearby waterbodies.

It is necessary to find tools that can estimate the effect of different scenarios on erosion processes on agricultural areas. We would like to present the challenges experienced and the results obtained by using LISEM (Limburg Soil Erosion Model) on the plot- subcatchment- and catchment scale in southeastern Norway. The agricultural catchment has been the subject of long-term monitoring of water quality. Challenges included spatial upscaling of local calibration, calibration on areas with very low soil loss rates and equifinality. In this poster, we want to facilitate a discussion about the possibilities of and limitations to the model for predicting hydrological and soil erosion processes at different scales.