



Assessment of land degradation sensitivity by scenario analysis in Southern Tuscany, Italy

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In the Mediterranean area land degradation phenomena are becoming more and more important due to future climate change and already increasing climate variability. Thus, extreme events such as droughts and floods are more frequent than before. On the other hand the Mediterranean area is strongly influenced by human activities such as cultivations over hundreds of years. This particular situation leads to, and aggravates the existing stress on land resources. Especially vegetation changes and soil erosion processes are leading to decreasing soil productivity or the loss of fertile soil and related water quality and quantity issues. The Centre for Soil Erosion Studies (CRES) in Grosseto, Tuscany recently started a study to monitor and to identify the changes of vegetation and land use. Furthermore the Centre focus on the identification and quantification of erosion processes. The aim of the study is to provide a decision support tool for an appropriate land management in the southern Tuscany area. The methods applied consist of a combined distributed modelling approach that is able to model different erosion processes under changing climatic and land cover conditions. In order to be prepared for future changes different scenarios are analysed and measures to counteract negative effects of this future changes are proposed. In this paper first results of the study are presented.