Geophysical Research Abstracts
Vol. 17, EGU2015-15915, 2015
EGU General Assembly 2015

LAPSUS: soil erosion - landscape evolution model

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LAPSUS is a soil erosion – landscape evolution model which is capable of simulating landscape evolution of a gridded DEM by using multiple water, mass movement and human driven processes on multiple temporal and spatial scales. It is able to deal with a variety of human landscape interventions such as landuse management and tillage and it can model their interactions with natural processes. The complex spatially explicit feedbacks the model simulates demonstrate the importance of spatial interaction of human activity and erosion deposition patterns. In addition LAPSUS can model shallow landsliding, slope collapse, creep, solifluction, biological and frost weathering, fluvial behaviour. Furthermore, an algorithm to deal with natural depressions has been added and event-based modelling with an improved infiltration description and dust deposition has been pursued. LAPSUS has been used for case studies in many parts of the world and is continuously developing and expanding. it is now available for third-party and educational use. It has a comprehensive user interface and it is accompanied by a manual and exercises. The LAPSUS model is highly suitable to quantify and understand catchment-scale erosion processes. More information and a download link is available on www.lapsusmodel.nl.