

# **Analysis of the crop productivity - soil erosion relationship using hyperspectral data**

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## **PRESENTATION ABSTRACT**

Crop yield is dependent on various soil properties such as, water-holding capacity, nutrient composition, and organic matter content. Soil erosion affects these properties and will therefore have an indirect effect on crop productivity. The exact contribution of soil erosion processes to spatial variation in soil properties and the related variation in crop yield is however not well understood, especially on the regional scale.

From a HYMAP hyperspectral image of the Hageland region in the Belgian Loam Belt a number of vegetation characteristics are mapped, using existing spectral indices and crop productivity samples from 8 corn fields taken at the time of the flight. The resulting maps are compared with the results of the WATEM/SEDEM soil erosion model and several topographic variables for the same area. Relationships detected this way may reveal some of the physical variables related to soil erosion (e.g. nutrient or water deficit) that affect crop productivity.