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# Strategies for Measuring Wind Erosion for Regional Scale Modeling

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Windblown sediment transport is mostly measured at field or plot scale due to the high spatial variability over the study area. Regional scale measurements are often limited to measurements of the change in the elevation providing information on net erosion or deposition. For the calibration and validation of regional scale wind erosion models insight in windblown mass fluxes at the regional scale is essential. The objective of this research is to develop a measurement strategy that provides insight in regional scale windblown mass fluxes, and observational data that can be used to calibrate and validate a regional scale wind erosion model.
So far, equipment for direct observation of windblown mass fluxes at the regional scale does not exist. Instead, to retrieve insight into mass transport at the regional scale information needs to be collected on mass fluxes at various land use types found in the region, and information on the effects of the borders between present land uses. This information can be combined by using model units of the size of arable fields in a regional scale model in order to predict the mass flux and soil loss at the regional scale.
Here, we use a portable plot strategy to maximize the total number of measurement plots with limited equipment, time and budget. Measurements on windblown mass transport were executed at 17 plots in agricultural stability zones 4 and 5 in Khanasser valley, Syria in 2009 and 2010. At each plot 16 MWAC (Modified Wilson and Cooke) sediment catchers were installed. In addition to the sediment catchers, a full metrological station to record wind regime, temperature and relative humidity was installed at each plot during the measurement period.
The results of this research show that with the strategy of portable equipment installed on different plots, information on mass transport for different land uses in the region can be obtained. Consequently, this knowledge is adequate to be used for calibration and validation of a field scale model under different land uses present in the region, taking into account the border effects.

keywords: Measuring wind erosion, Regional scale, Wind-blown mass flux