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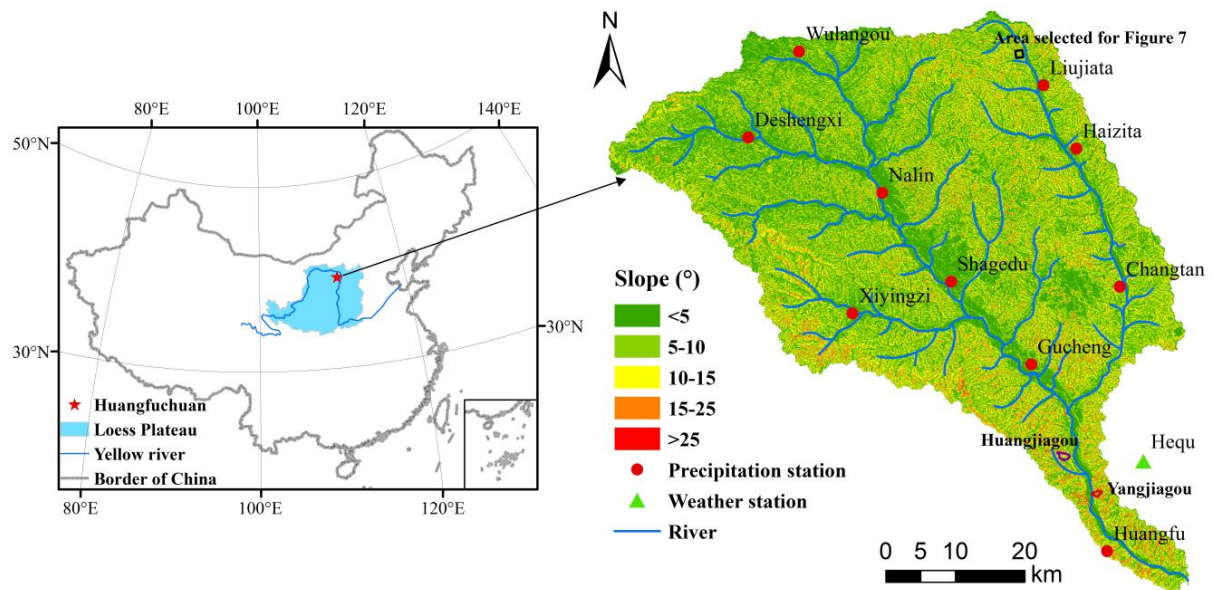


Figure 1 Basic information for the Huangfuchuan catchment including location, slope, hydro-meteorological stations, and river networks, location of Huangjiagou and Yangjiagou check-dam controlled catchment and 1 km² area selected for the further analysis in Figure 7.

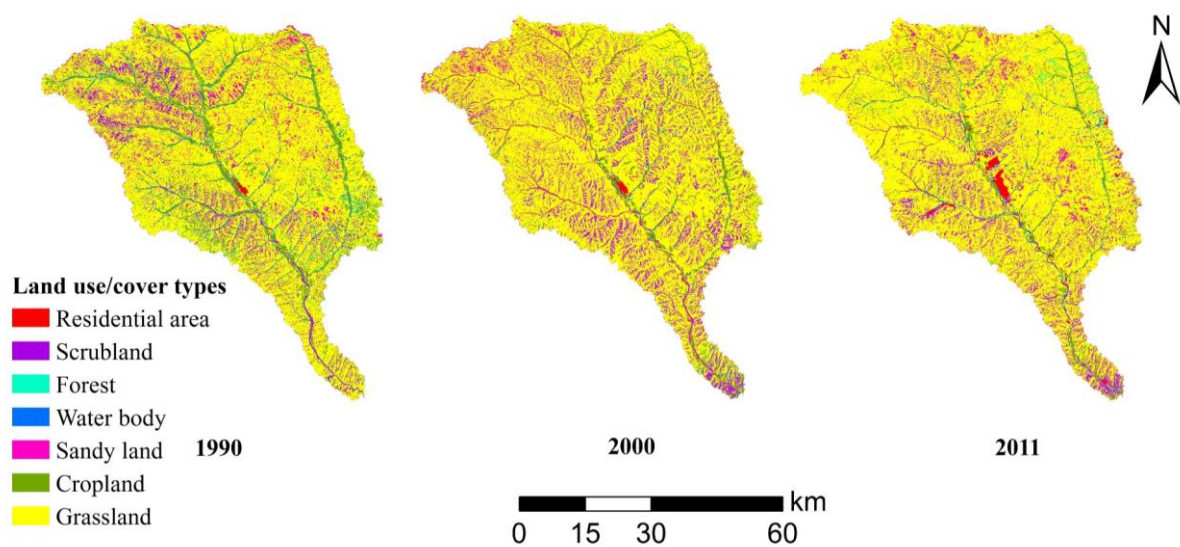


Figure 2 Land use/cover pattern of the Huangfuchuan catchment in 1990, 2000 and 2011

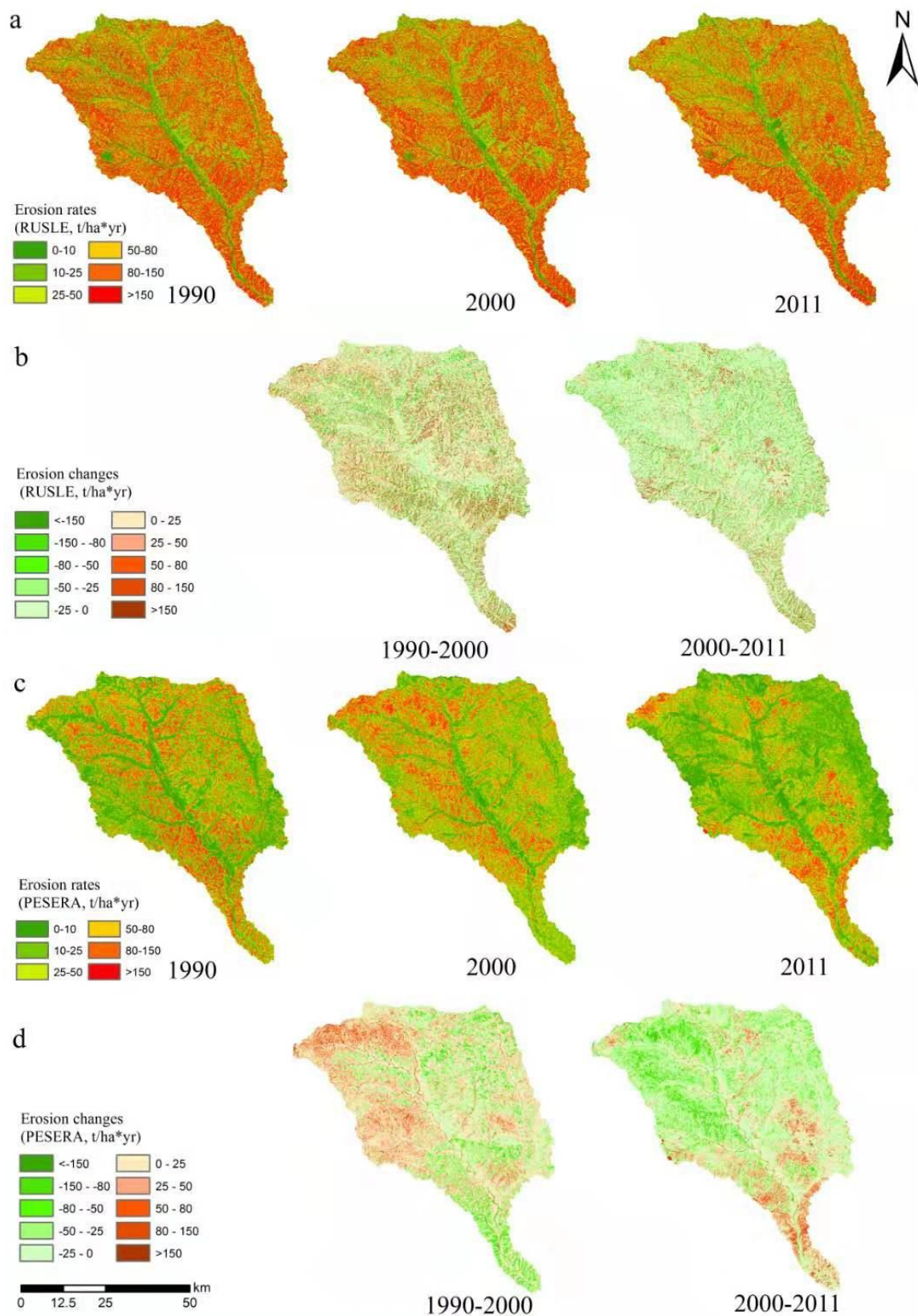
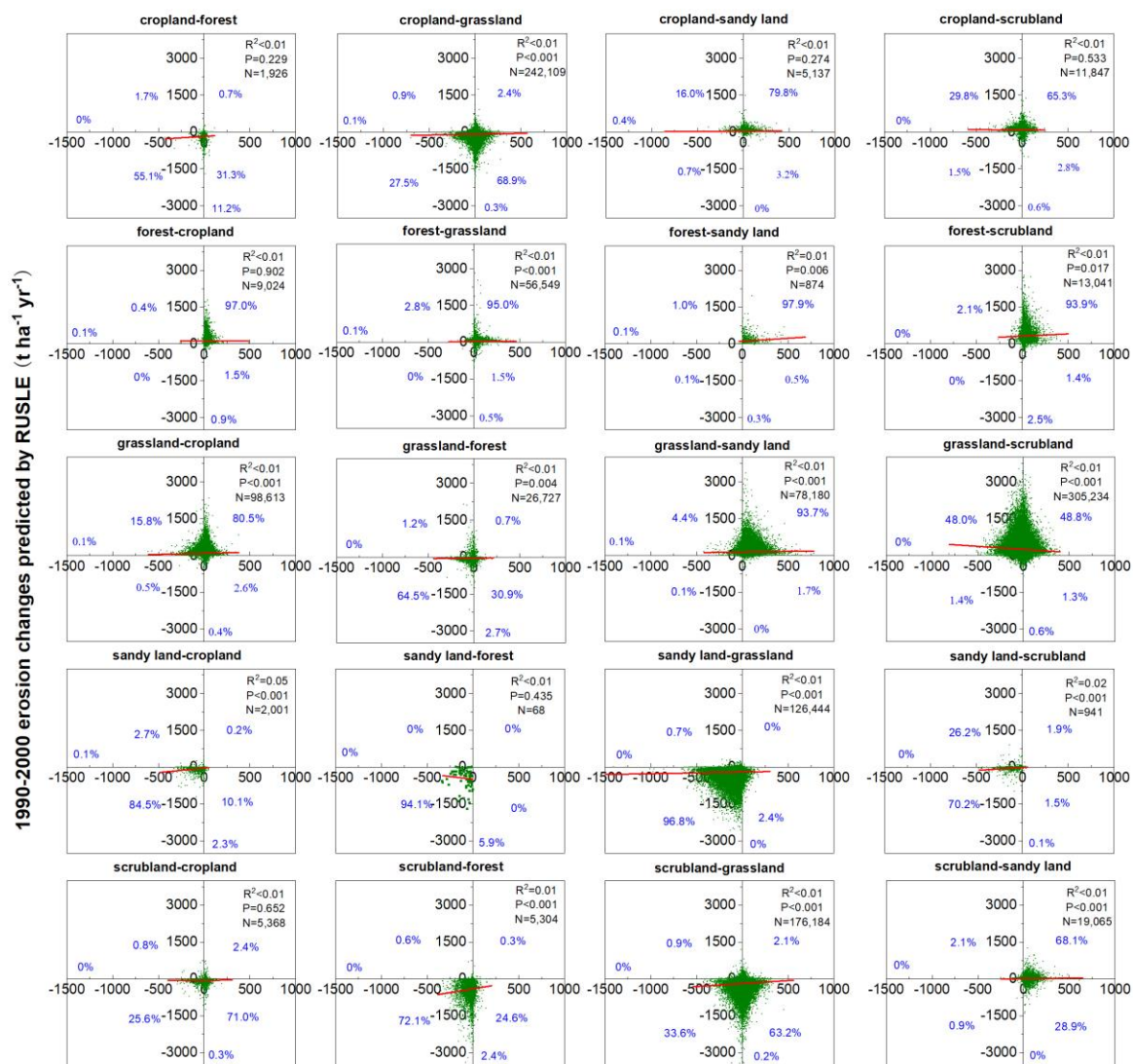


Figure 3 Soil erosion rates modelled by RUSLE (a) and PESERA (c) and erosion rate changes under the 1990-2000 and 2000-2011 LUC derived based on the modelling results of RUSLE (b) and PESERA (d)



1990-2000 erosion changes predicted by **PESERA** ($\text{t ha}^{-1} \text{yr}^{-1}$)

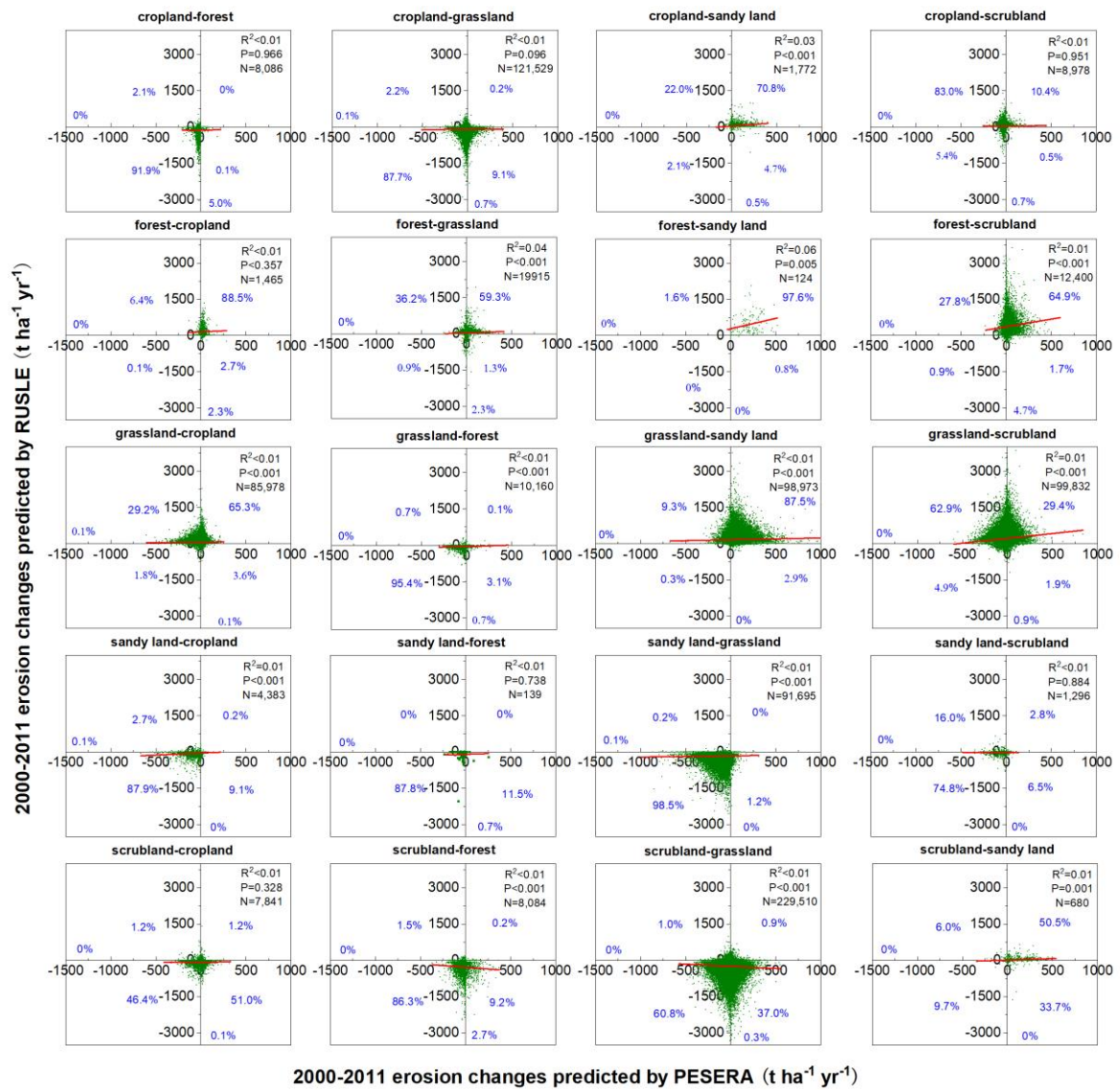


Figure 4 Relationship between erosion rate changes (1990-2000 and 2000-2011) modelled by PESERA and those modelled by RUSLE. The percentages refer to the number of points in relevant quadrants while those close to the axes stand for the number of points with a value of zero (i.e. no erosion changes were predicted by RUSLE and/or PESERA).

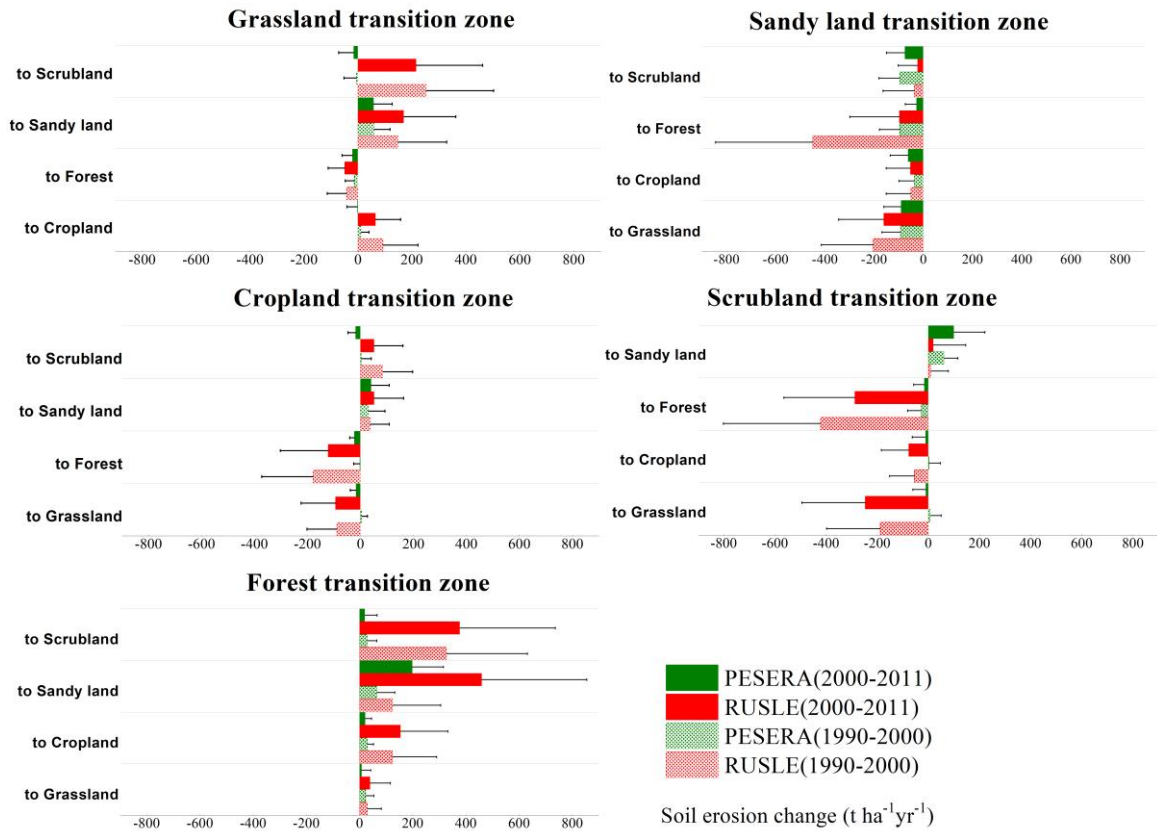


Figure 5 Mean and standard deviation of soil erosion rates predicted by RUSLE and PESERA for land cover transition zones in the Huangfuchuan catchment during 1990-2011

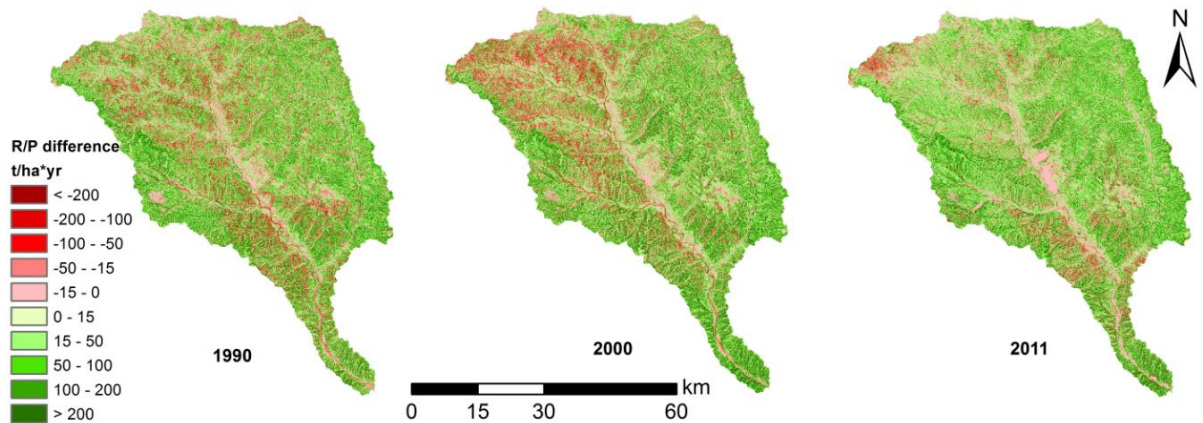


Figure 6 The difference between RUSLE and PESERA predicted erosion rates (RUSLE predictions minus PESERA predictions) under the 1990, 2000 and 2011 land use/cover pattern.

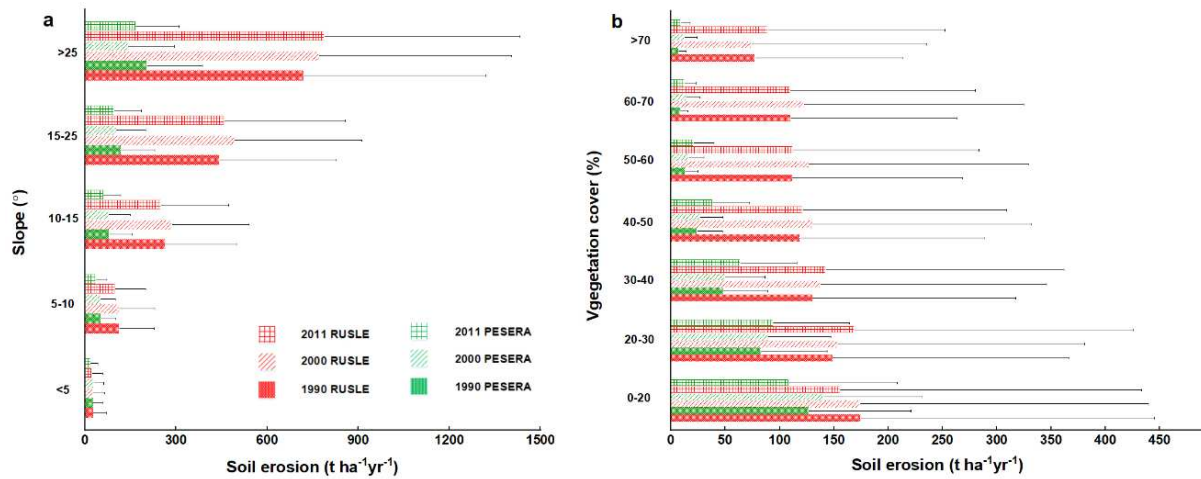


Figure 7 Mean value and standard deviation of soil erosion rates predicted by RUSLE and PESERA for areas with different slopes (a) and vegetation cover (b) in the Huangfuchuan catchment under the 1990, 2000 and 2011 land cover

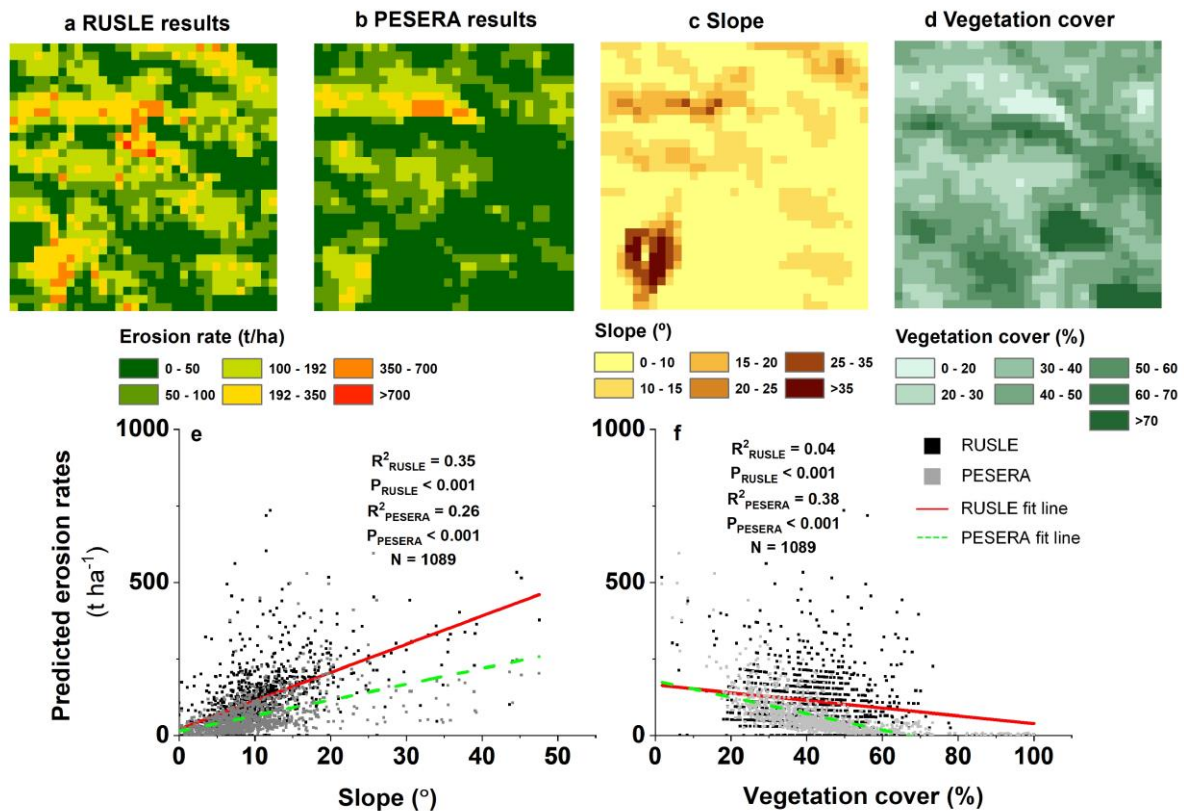


Figure 8 RUSLE/PESERA-predicted erosion rates (a, b) and their relationships with slope gradient/vegetation cover (c, d) for a 1-km² area (e, f), of which the location is shown in Figure 1, under the 2000 land cover.