

Interactive comment on “Effects of cultivation and reforestation on suspended sediment concentrations: a case study in a mountainous catchment in China” by N. F. Fang et al.

Anonymous Referee #1

Received and published: 4 September 2015

General Comment: The manuscript quantified suspended sediment concentration dynamics under the influence of the “Household Contract Responsibility System” and Grain-for-Green projects in China. The paper is well written. The content is interesting and scientifically sound. It is a useful contribution to research in the field of catchment geomorphology. However, the manuscript in current version could not meet the standard of the journal, and moderate modification should be performed. Specific comments: The results are based on one study case. How the results are anticipated to change for different catchments for other case studies? The authors need to add some text regarding this in the conclusion section to show the scope of this research results.

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For the discussion, an objective and open-minded consideration of multiple possible explanations could provide a theoretical dimension and bolster the geomorphic aspects of the paper. Given that speculation about watershed processes is likely the best that can be done, the paper should employ the method of multiple working hypotheses.

Line 28: The unit of annual suspended sediment yield should be kg. Line 34~35: The standard deviation should be noted for 1990s and 2000s. Line 122: Why the forestland of sub-catchment changed different from the Du catchment? Line 140: At the end of the study area, what about population in the watershed? (number of villages, total population and trend, population density). Line 152: Variable D should be italic. Line 172: Please note the threshold values of Mann-Kendall statistical test. Line 185: No need indicate excel 2010 and SPSS17.0. Line 191: Consider use kg as the unit for SSY. Line 234: Is 1980-1989 the same as 1980s? please use a uniform expression. Line 237: “max Qx”, add “the”. Line 241: It should be Figure 7. Line 254: Why use 25%, 50% and 75% as threshold? Line 259: Figure 8 presents box plots for SSCz and “SSCx”? Line 317: “Cultivation or reforestation alter the slope surfaces but do not remove gullies and channels. Thus, the max SSCx is greater than the max SSCz”. This is speculative and only one of many possible explanations. The difference of the max SSC could be caused by rainfall regimes. Line 458, 462, 485 and 489: Delete the “_”.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 7583, 2015.

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