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Hydrology and Earth System Sciences Discussions

Interactive comment on "Changes in streamflow and sediment discharge and the response to human activities in the middle reaches of the Yellow River" *by* P. Gao et al.

Anonymous Referee #1

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General Comments The manuscript presents trend and change point analyses from time series of sediment load and streamflow in the Yellow River (China). This manuscript adresses a relevant scientific questions on a major river, but does not use novel statistical methodologies to detect these potential changes. In spite of this, the manuscript is in my view a sound application of well known techniques.

The methods are clearly presented, except for the selection of a significance level. In some cases, a level of 0.01 or 0.05 is used, while in other cases, 0.1 is used. Is this a typographic error? If not, this change should be justified (?).

The other technical weakness that could be adressed is associated with the comparison of slopes before and after a change point. This assessement is qualitative in the manuscript. A significance test on the slope values should be included.

Specific comments

Abstract: two different significant levels are used: 0.01 and 0.05. However, later on, 0.1 is used. P. 6795, line 11: a rate must be a function of time. P. 6795, line 25: How can an amount be descriptive? P. 6795: line 29: "are random fluctuations or actual tendencies." P. 6796, line 13: Provide drainage area P. 6796, line 25: "and were controlled for quality..." P. 6798, line 4: "Where Y" is the pre-whitened series" P. 6798, line 6: "... from step three." P. 6799, line 12: "...two contrasted periods..." P. 6799, line 21: "...and the mean coefficients of variation..." P. 6800, line 23: In order to assert that the transition years are correct and meaningful, a test on slope differences would be useful. P. 6802, line 21: "However, large-scale conservation measures..." P. 6803, line 1: "... land was under protection, with different soil..." P. 6805, line 5: "...that conservation measures were developped."

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 6793, 2010.