

Interactive comment on “Runoff and sediment load of the Yan River, China: changes over the last 60 yr” by F. Wang et al.

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Received and published: 30 January 2013

There is valuable data in this study, but the analysis does little to shed light on the processes that drive the observed trends. I see no value in the Mass curves of normalized anomalies (Figure 4). This analysis shows a upward bulge for any variable with an decreasing trend and vice-versa, so that the curves add nothing to the trends already shown in figures 2 and 3, and provide a dubious basis for subdividing the period of record. It is not always easy to marry the tables with the figures. For example figure 2 appears to show sediment load varying between c. 110 Mt y⁻¹ to c. 500 Mt y⁻¹ with an average of about 200 Mt y⁻¹, whereas table 1 gives values of 1.3, 182.0 and 41.5 Mt y⁻¹ respectively. As pointed out in the text and shown in Table 6, siltation, mainly behind check dams, accounts for a total of 2265 Mt, which is several years' mean river

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sediment load, whichever figure is taken. This issue is left largely unresolved (p1233) but seems to cast doubt on the consistency of the data. Since sediment load is very strongly driven by extreme events, it is difficult to read much into any analysis based on annual totals. What I would recommend is to analyse the daily (or even monthly) data which should underlie the annual data presented, trying to identify changes in the relationships between daily rainfall, daily runoff and daily sediment concentration (or load), which are more likely to show the impact of management, whether through land use change or through engineering structures.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 1213, 2013.