

## ***Interactive comment on “Hydrological recovery in two large forested watersheds of Southeastern China: importance of watershed property in determining hydrological responses to reforestation” by Wenfei Liu et al.***

**Anonymous Referee #1**

Received and published: 9 July 2016

This paper detected and compared the different responses of high- median- and low-flow of 2 similar watersheds to forestation using long-term data. Based on this analysis, the authors stated that besides climate and vegetation, the watershed properties of topography (such as the slope gradients) also play an important role in the runoff response to forestation. This finding is correct and important for promoting the accurate evaluation of forest impact on watershed runoff and for guiding the watershed management.

I have some scientific/technical questions/suggestions as below for the authors: 1) In

C1

the abstract, it is better to give the period (years to years) of data used. 2) If there is data about the difference in soil thickness (also soil physical properties) of the 2 watersheds, they can be listed in the watershed description and used in the discussion. Or if the author can find some literature about the relation between slope gradient and soil thickness (water-holding capacity), they can be used in the discussion to support your main conclusion. 3) P2L9: Since the study area is in humid region, I suggest at the beginning of this paper to say that "the water quantity and time distribution is of utmost importance ....", instead of "Water availability"? 4) It is necessary to say if the watersheds were obviously affected by reservoir construction? or have the same effect? 5) P5L8-11: Since the big difference in watershed area, it is better to give the flow discharges per unit watershed area for an easier comparison. 6) P9L20-22: If you look at the difference in the extreme high flows between the deforestation and reforestation periods, you can see the forest impact. You may add some words about this in your research result and conclusion. 7) Fig. 3: I doubt the too low LAI in watershed Xiangshui, just between 1-2.5? It may also low in Pingjiang? Please check. 8) P7L20-21: Delete the words in parentheses which is a repeat of former explanation (L11-12). 9) P8L1-2: Paired years were selected not only for low flow, but also for high and median flow. Correct the text. 10) P9L7: Delete "forest" before "reforestation". 11) P9L18: Replace "Fig. 4b" with "Fig. 4c". 12) P9L21: 4c replaced by 4b. 13) P14L16: Add "." before "nevertheless". 14) Table 1: Please check the slope range classification. Why not continuously?

---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-327, 2016.

C2