

## ***Interactive comment on “Socio-hydrologic perspectives of the co-evolution of humans and water in the Tarim River Basin, Western China: the Taiji–Tire Model” by Y. Liu et al.***

**Anonymous Referee #2**

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A historical dynamics of coupled social and hydrological systems within TRB as well as the associated climatic and ecological systems are reviewed and analyzed by three stages. The paper is interesting and well organized. The history of TRB reflects the human dependence on hydrologic system in the early stage, and the human impacts on the water system with the increase of social productive force. A few minor comments are provided below.

Lines 3-5 on page 12755: change to “All the great ancient civilizations of Egypt, China, India and Babylon are developed along...”?

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Lines 3-5 on page 12756: change to “This paper represents a first attempt at undertaking a historical socio-hydrological study on Tarim River Basin in northwestern China from the distant past (more than two millennia before) to the present.”?

Lines 8 on page 12756: change to “human and water systems”?

In Section 2 “Study area”: Figure 4 can be referred. Therefore, Figure 4 can be changed to Figure 3.

Section 3.1: The title of “The mathematics of development” is subject to change.

Line 8 on page 12761: change “b” to “3b”.

Line 11 on page 12761: change “say” to “documented”

Line 12 on page 12761: change “implies” to “implied”

In Figure 4c, it is not clear that the association of the two lines and the vertical axes.

Line 14 on page 12772, “and a series of water conservancy...”

Line 22 on page 12772, “rejoins”?

Line 27 on page 12772, delete “dry”?

Line 10 on page 12773, “has also been improved”?

Lines 2-3 on page 12773, double check with “. . . groundwater depth in the lower reach of the Tarim River increased from 8–10m to 2–4 m”

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