

## ***Interactive comment on “Tree ring-based reconstruction of October to November runoffs in the Jiaolai River since 1826” by L. Ma et al.***

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This is a good question. In the research, not only to study the runoff change, but also to study the reasons in the changes. Runoff from precipitation, runoff variation largely restricted to the precipitation change, in addition, the runoff change also is influenced by water resources developed and utilized by human as well as the underlying surface factors change. In this study, the xiawa hydrologic station of jiaolai River upstream using water rarely, underlying surface over the years have changed very little, the measured runoff is close to the natural runoff, so leads to the change of runoff is the main reason for the change of precipitation. The study area is located in arid and cold region, nearly 50 years precipitation change trend in the figure 7 showed, fully illustrated nearly 50 years precipitation decrease led to the reducing tendency of runoff, and small

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amplitude reduction of precipitation may cause the decrease substantially of runoff. Similarly, we can infer that, before the past 50 years this phase no measured data of precipitation, the change trend of runoff should be also affected by the variety trend of the precipitation.

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