

Responses to the comments from Reviewer #2

We are very grateful to the Reviewer for the positive and careful review. The thoughtful comments have helped improve the manuscript. The reviewer's comments are italicized and our responses immediately follow.

This study found moisture flux has higher predictability than precipitation in summer in Yangtze River basin, China. The predictability of precipitation and moisture are higher in post-El Niño summers than those in post-La Niñas. The results extend the predictability of Yangtze River summer floods and to provide more reliable early warning by using atmospheric moisture flux predictions. The research is very interesting and significative. However, there are a few issues that the authors need to address before the manuscript can be accepted. I recommend most of the issues I raise below just need clarification or justification.

Response: We would like to thank the reviewer for the positive comments. Please see our responses below.

We predict the precipitation in order to predict the flood. How to predict the flood using the moisture? The authors maybe add some discussion.

Response: Thanks for the comments. We have added the discussion as follows:

“Extreme precipitation and floods usually occurred accompanied with intensive atmospheric moisture transport, especially over a large area such as the middle and lower reaches of the Yangtze River. Given higher predictability of atmospheric moisture flux, it can be used as a precursor for flooding forecasting, either directly linking moisture flux to streamflow prediction through statistical techniques (e.g., conditional distribution or Bayesian methods), or adding moisture flux information into precipitation prediction, and consequently improving floods prediction. Moreover, it is suggested that assimilating moisture flux observations into numerical climate forecast models would benefit the prediction of hydrological extremes.”

Line 133, 300m → 300mm.

Line 378, Kg •m-1s-1 → •m⁻¹s⁻¹

Response: Thanks for the comments. We have corrected them as suggested.