

Authors Response to Editor

Comment: *Unfortunately the reviewers were not available for a second round of review, but according to my judgment their comments have been taken into account satisfactorily. My final remark is that the font of many figures should be increased as it is not readable by naked eye on an A4 scale.*

Response:

Dear Editor,

The authors would like to thank the editor for your time and constructive comments.

I) The font of Fig. 4, Fig. 5, Fig. 8, Fig.10, Fig. 11, Fig.12, Fig. 13, Fig. 14, and Fig. 16 have been improved in the manuscript. And all figures have been uploaded as a *.zip archive.

II) The reference list has been adjusted according to the HESS standards.

III) Hexiang Guo has been added as a co-author because of his contribution to improving the figures and revising the manuscript.

Yours sincerely

All authors

The revised figures are given as follows.

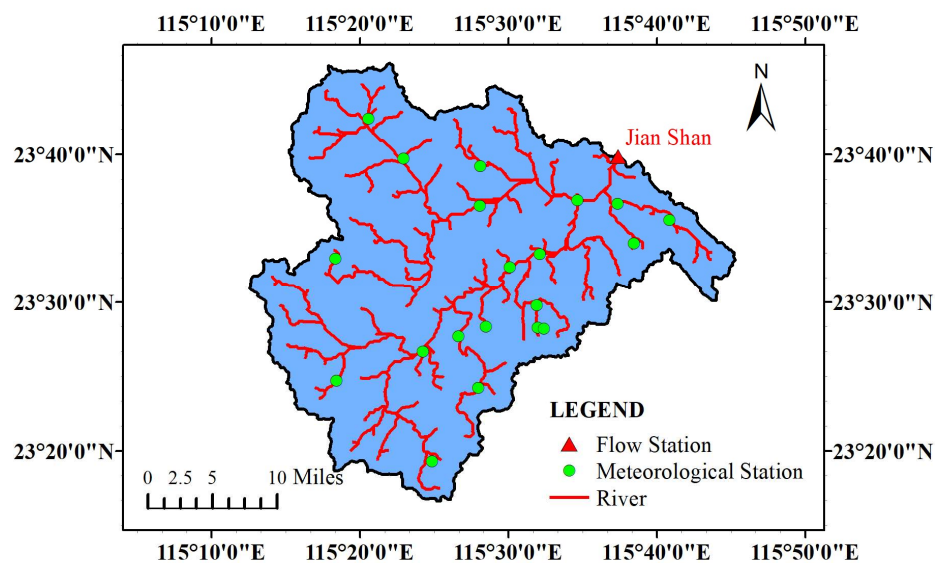


Figure 4. Locations of meteorological stations and gauging stations in the Qin River basin

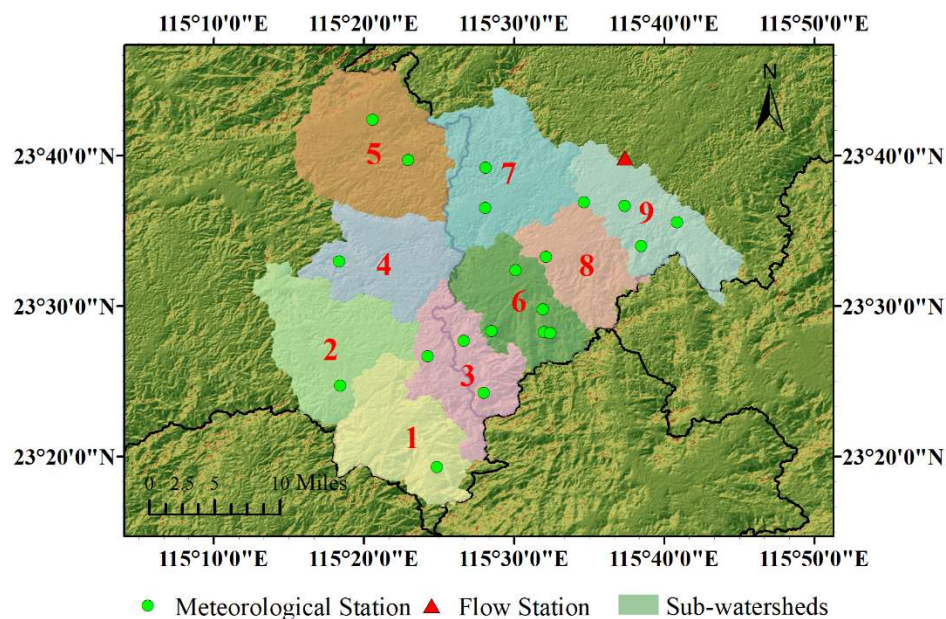
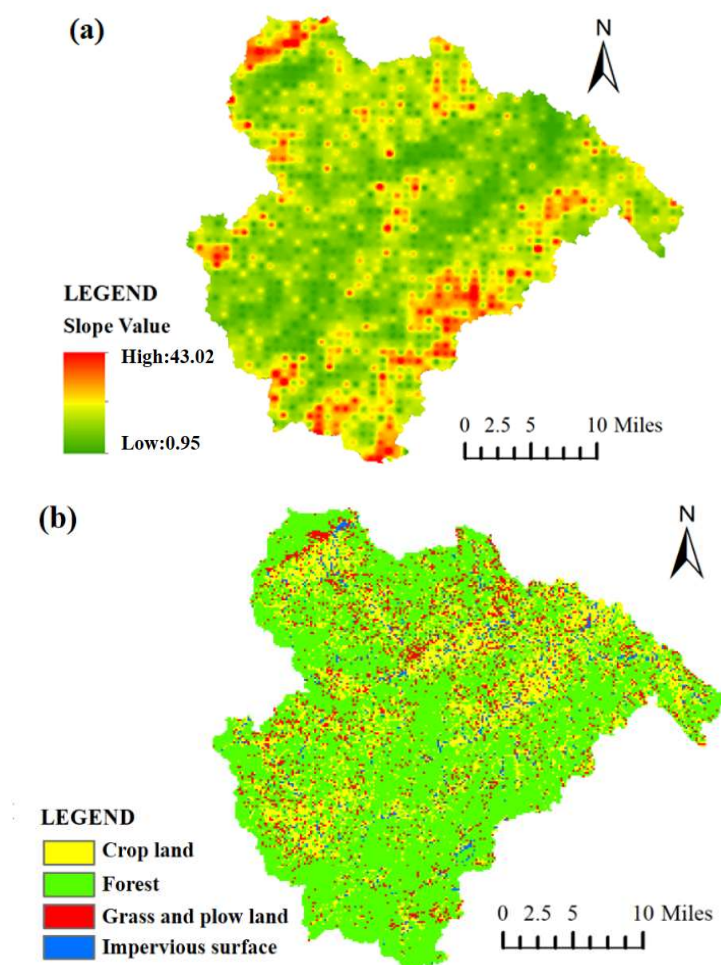


Figure 5. Sub-basins of the Qin River basin (*Note.* The satellite images for the study area are available at <http://www.gscloud.cn>)



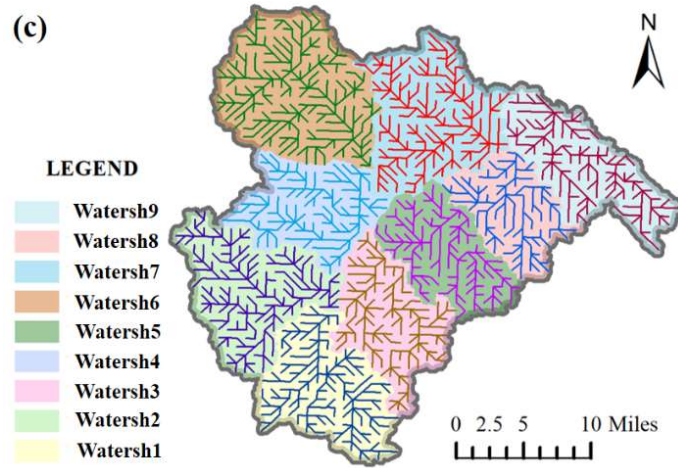


Figure 8. Slope, land types and rasterized flow direction of the Qin River basin

(a) Slope distribution. (b) Land types. (c) Rasterized flow direction.

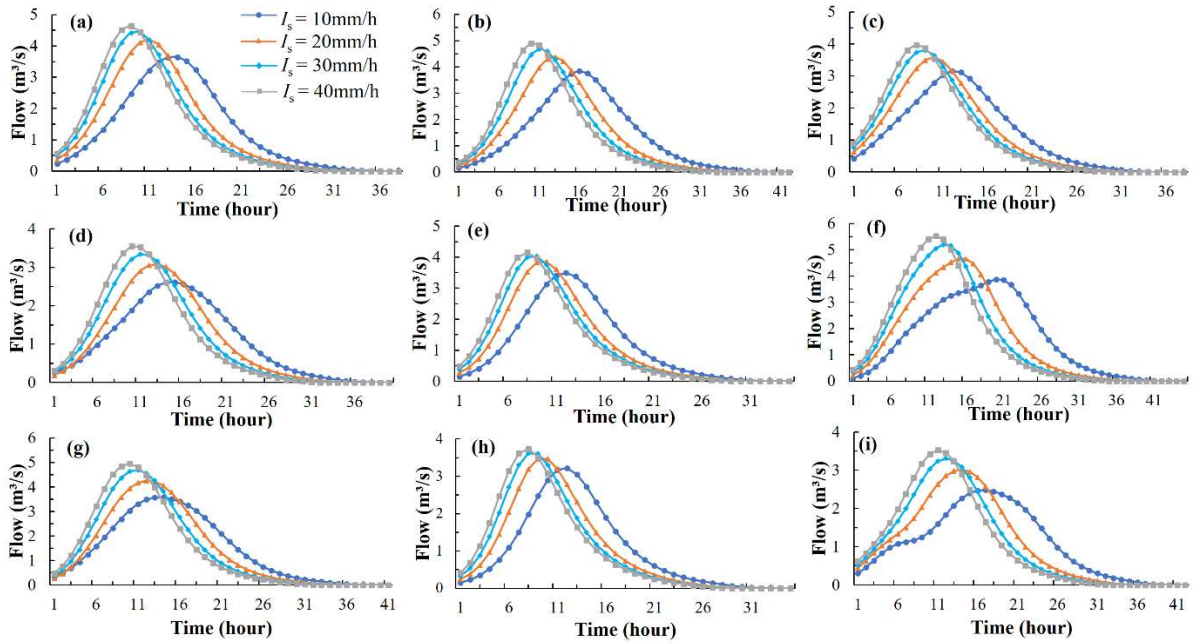


Figure 10. The TDUH for the Qin River basin. (a) Sub-basin 1. (b) Sub-basin 2. (c) Sub-basin 3. (d) Sub-basin 4. (e) Sub-basin 5. (f) Sub-basin 6. (g) Sub-basin 7. (h) Sub-basin 8. (i) Sub-basin 9.

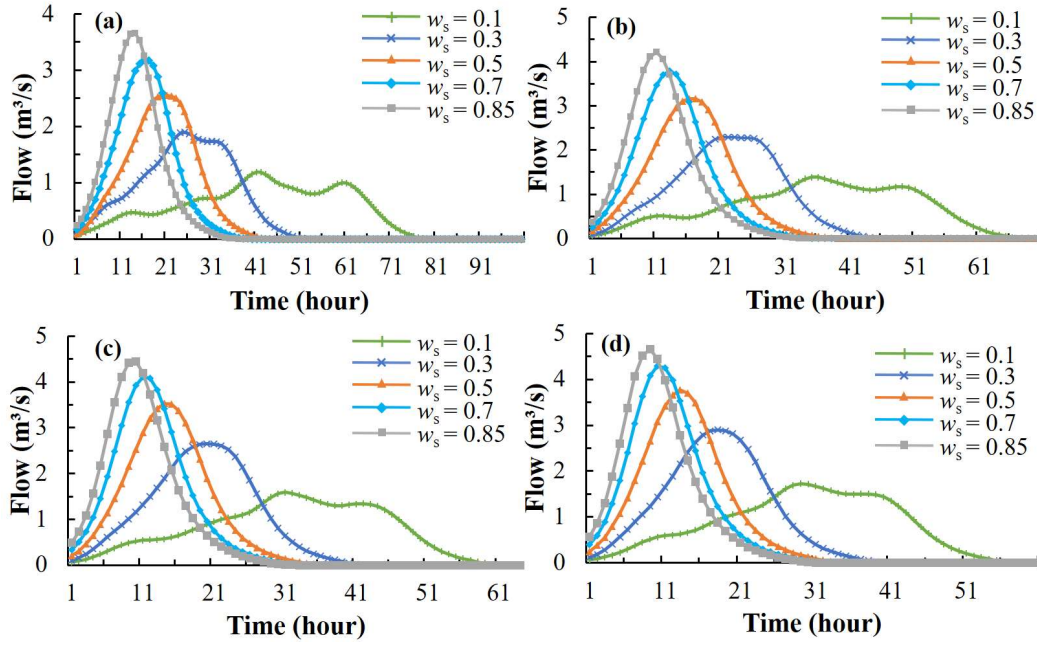


Figure 11. The TDUH considering soil moisture content for sub-basin 1 of the Qin River basin. (a) $I_s = 0.5$. (b) $I_s = 1$. (c) $I_s = 1.5$. (d) $I_s = 2$.

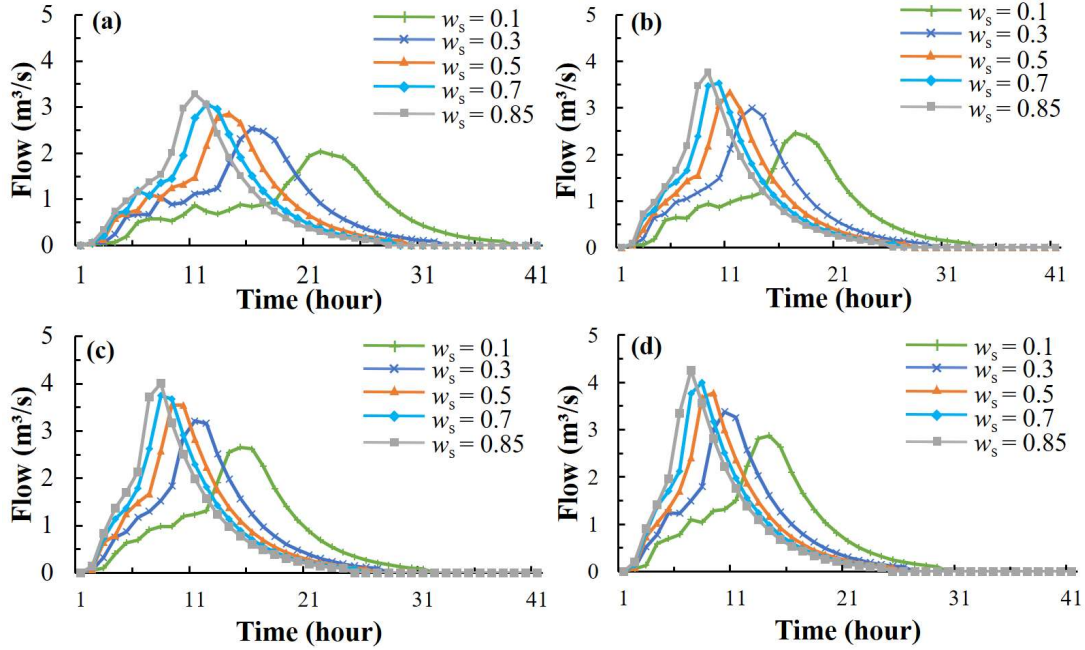


Figure 12. The TDUH considering soil moisture content for the Longhu River basin. (a) $I_s = 0.5$. (b) $I_s = 1$. (c) $I_s = 1.5$. (d) $I_s = 2$.

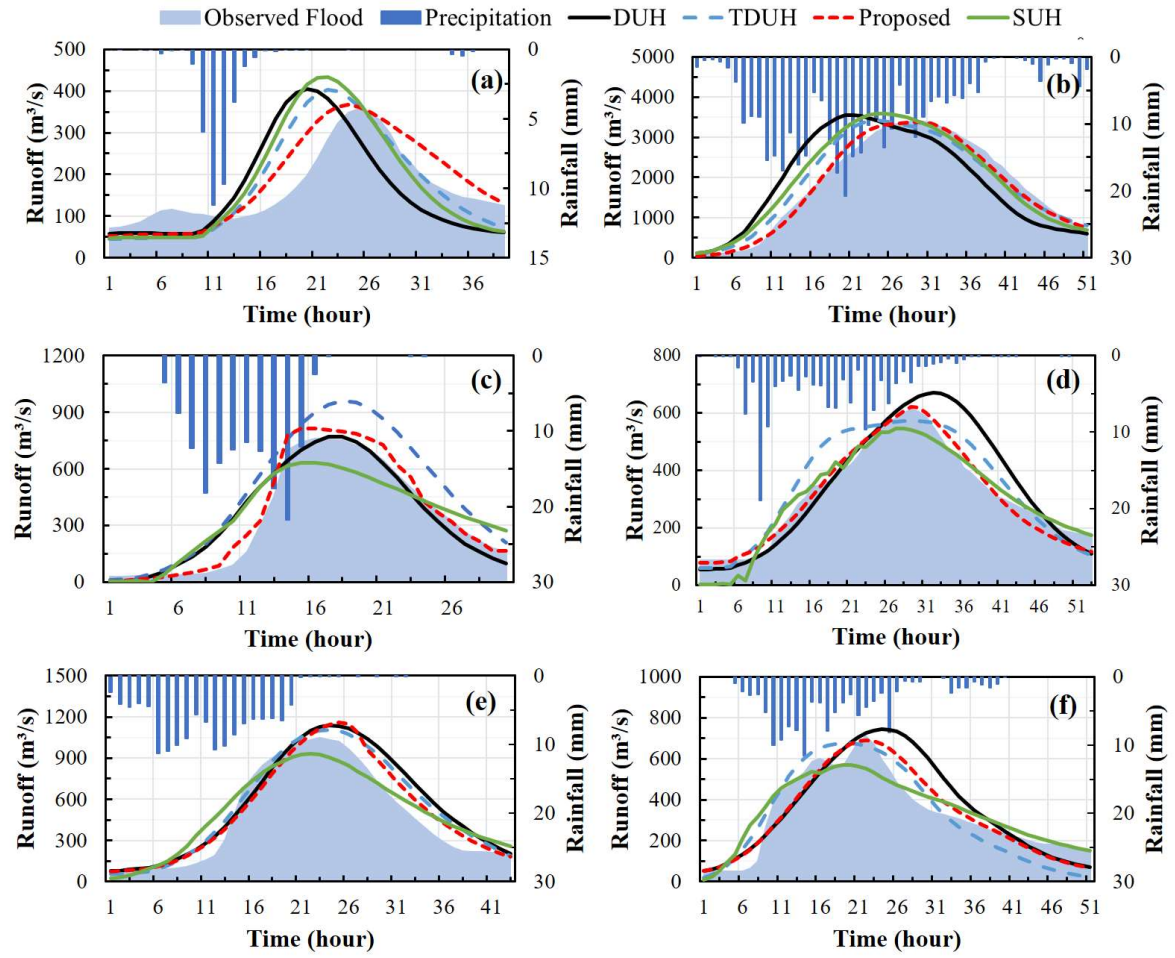


Figure 13. Comparison of flow hydrographs obtained by the four methods. (a) Flow event No.20130720. (b) Flow event No.20130817. (c) Flow event No.20150709. (d) Flow event No.20160128. (e) Flow event No.20161021. (f) Flow event No.20180916.

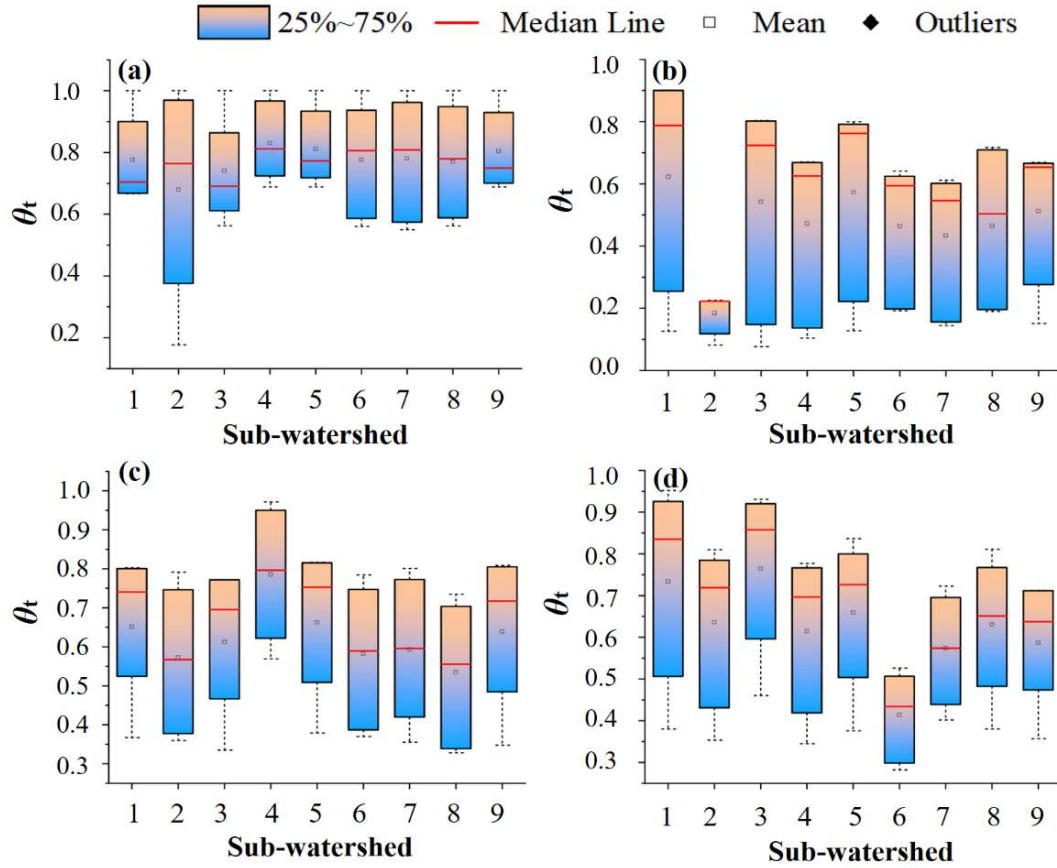


Figure 14. Distributions of time-varying θ_t at different times in each sub-basin using the TDUH-MC method. (a) Flow event No.20130817. (b) Flow event No.20150709. (c) Flow event No.20160128. (d) Flow event No.20180916. θ_t represents the ratio of current soil moisture storage to the corresponding maximum soil moisture capacity in the unsaturated region.

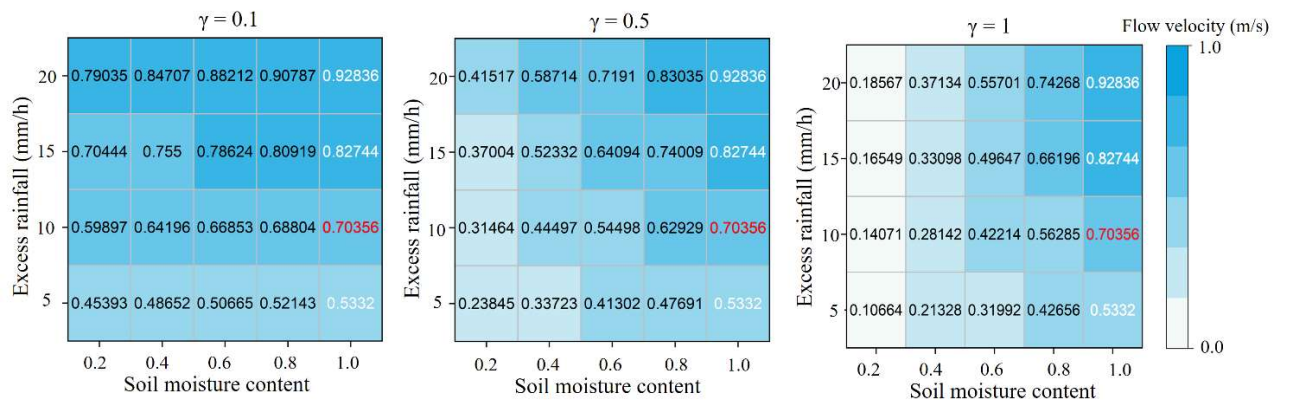


Figure 16. Time-varying flow velocity values corresponding to different parameters