

1 **The effect of water storage change in annual evapotranspiration**
2 **estimation in humid catchments based on the Budyko framework**

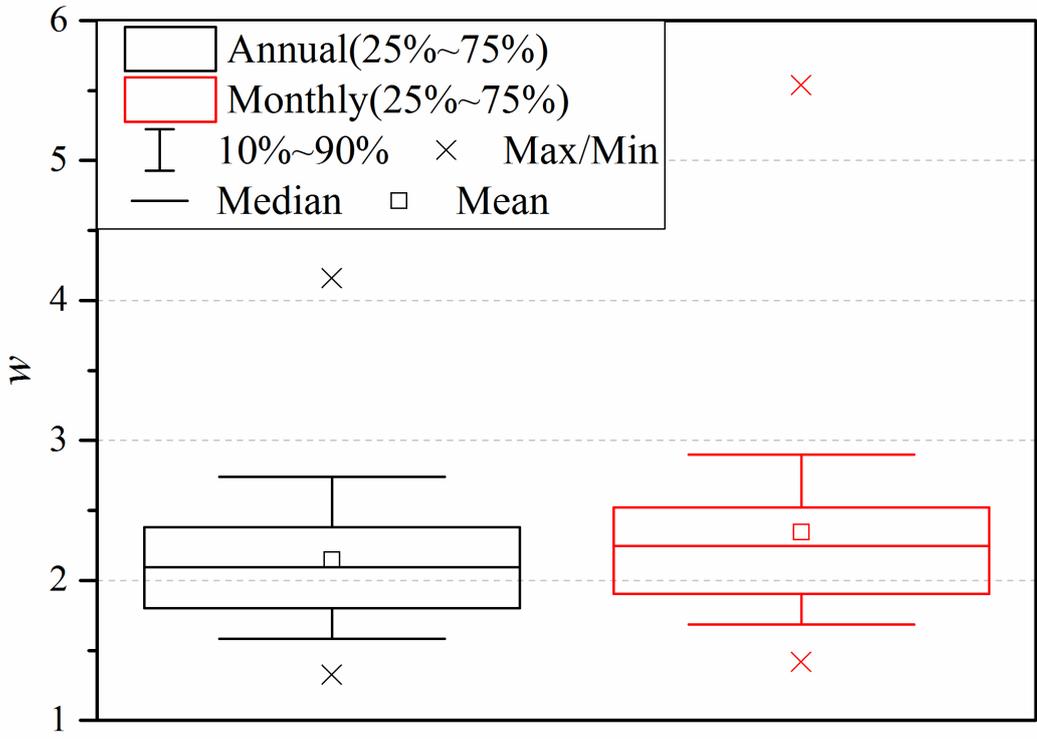
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4 Tingting Wang^{1,2}, Fubao Sun^{1,2,3*}, Hong Wang¹, Wenbin Liu¹, Hao Wang⁴

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6 **Supporting Figure**

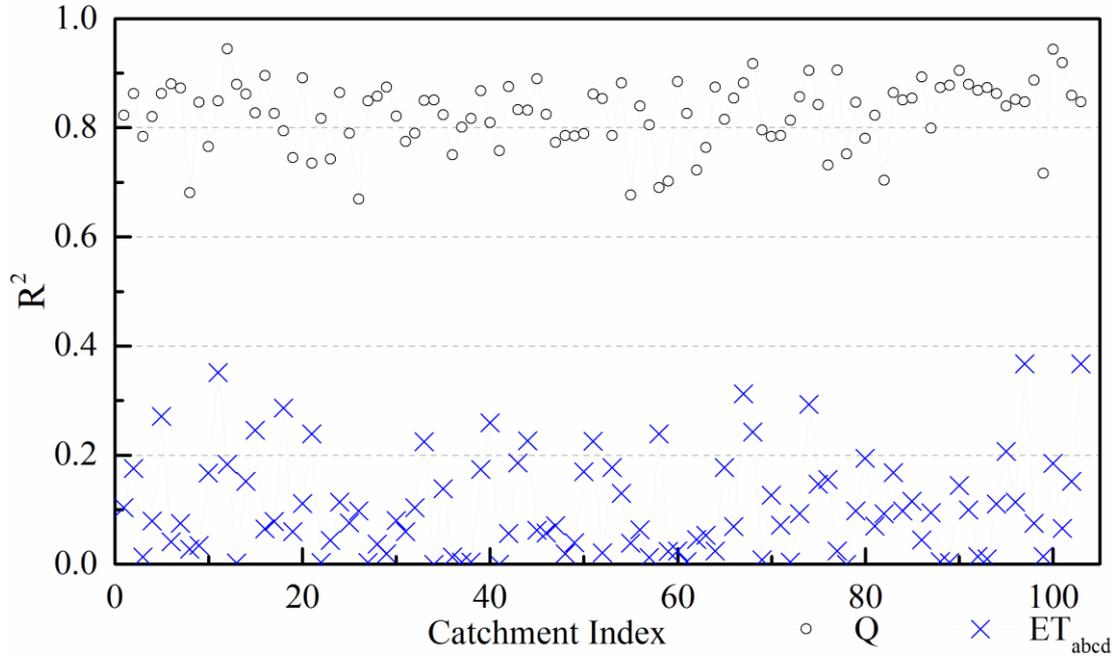
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9 Figure S1 The boxplot of calibrated w in Fu's equation (black), and based on extended

10 Budyko equation (red).



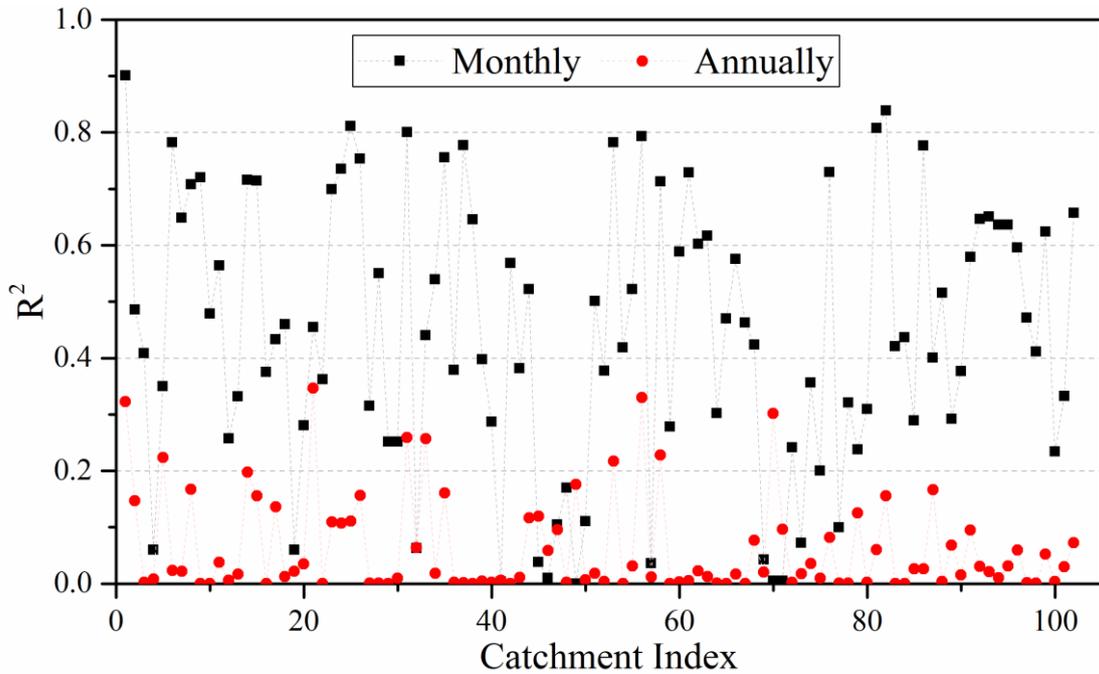
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12 Figure S2 The R^2 between observed and simulated results from abcd model, i.e., Q_{obs}

13 v.s. Q_{abcd} and ET_{wb} v.s. ET_{abcd} in 102 humid catchments over China.

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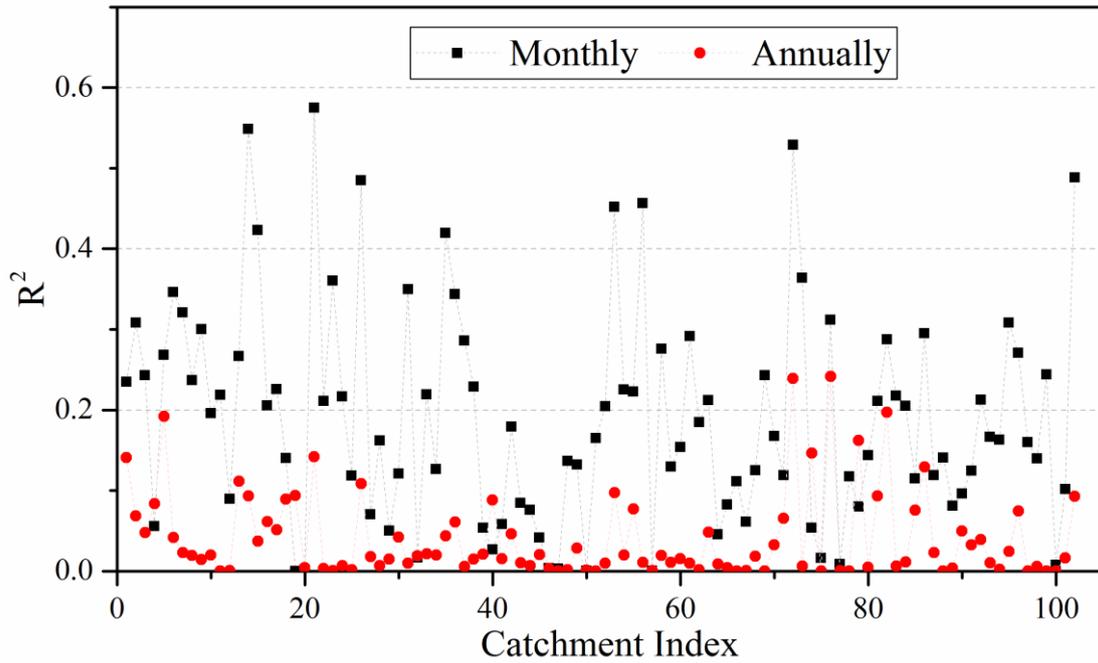
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17 Figure S3 The R^2 between monthly ET_{wb} and ET_{Budyko} , which is estimated using

18 extended Budyko equation, and that aggregated to annual timescale, the ΔS is the soil

19 moisture change from VIC output.

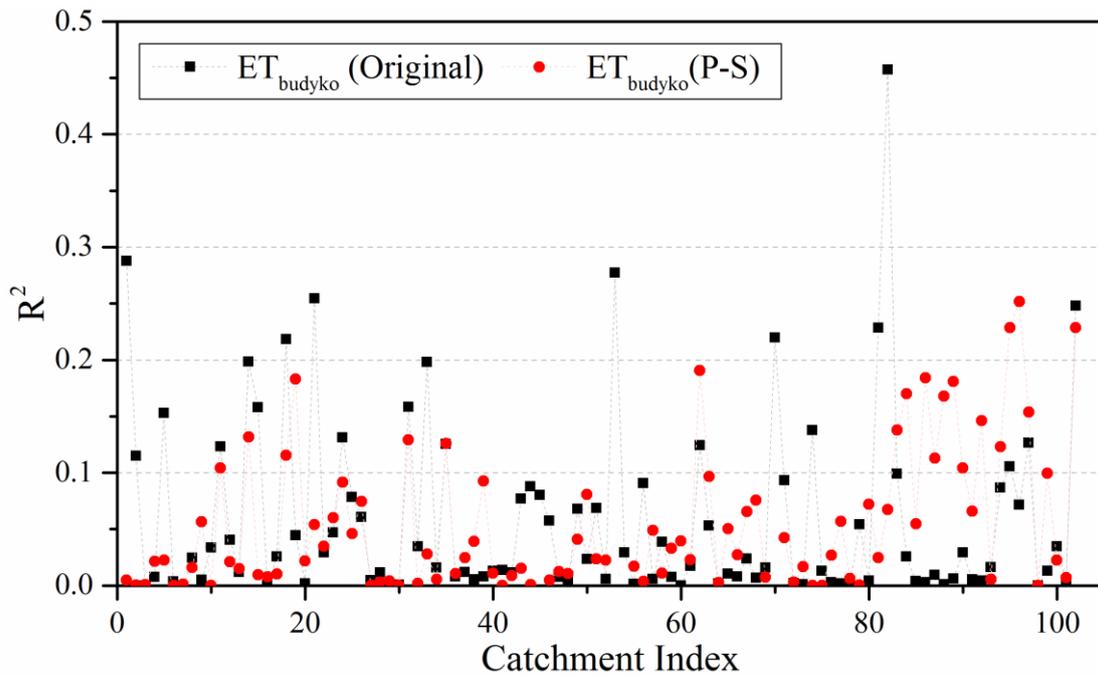
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22 Figure S4 The R^2 between monthly ET_{wb} and ET_{Budyko} , which is estimated using
23 extended Budyko equation, and that aggregated to annual timescale, the ΔS is the soil
24 moisture change from GLDAS output.

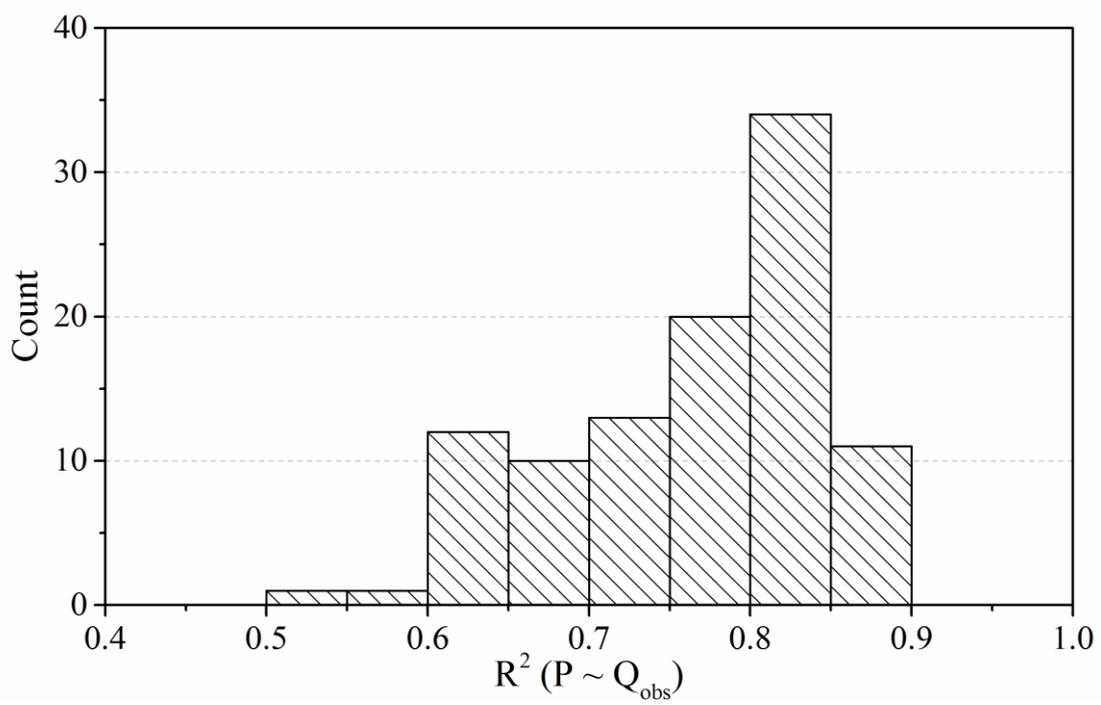
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27 Figure S5 The R^2 between annual ET_{wb} and ET_{Budyko} (black, marked as original), and

28 the corresponding results using annual $P-\Delta S$ as equivalent P in Fu's equation (red,
29 marked as $P-S$), the ΔS is the abcd output.
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32 Figure S6 The statistical information of catchments grouped by R^2 between annual P
33 and Q_{obs} with linearly regression.

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