Author's Response to Decision Letter (Remote Sensing-2236747)

Article Title: "Improved characterization of flood monitoring based on reconstructed daily GRACE solutions over the Haihe River Basin"

Dear Reviewer,

We are very grateful to Reviewer for reviewing the paper so carefully. We have carefully considered these suggestions of Reviewer and make changes in our manuscript by point to point. Meanwhile, we have checked the Figures and grammar of this manuscript. Thanks very much.

Best regards,
Shengkun Nie et al.

Response to comments from Reviewer #1:

1. Line 31, the NSE indicator should be given its full name: Nash-Sutcliffe efficiency coefficient.

Response: Thank you for the suggestion.

The *NSE* is replaced by the *NSE* (Nash-Sutcliffe efficiency coefficient), please see the modification in Line 32 in the revised version.

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2. Line 35, please use comma in English.

Response: Thank you for the reminder.

The comma in Line 35 has been corrected to the English format in the revised version, please see the modification in Line 37 in the revised version.

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3. Equation 14, the numerator part of the calculated NSE indicator should be given a superscript representing the square.

Response: Thanks for your suggestion.

We are so sorry for the careless mistake. The superscript representing the square is completed, please see the modification in Equation 14 in the revised version.

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4. What's the spatial resolution of your reconstructed TWSA? Is it enough to detect flood?

Response: Thanks for your professional questions.

The spatial resolution of reconstructed TWSA is 0.25°×0.25°. According to the results of this study, the spatial resolution of 0.25°×0.25° is enough to detect flood events in the Haihe River Basin. Please see the modification in Line 401 in the revised version.

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5. The legend of Figure 6 can be moved to the blank of Figure 6(b).

Response: Thanks for your suggestion.

The legend of Figure 6 has been moved to the blank, and Figure 6 in the original manuscript has been replaced by Figure S1. Please see the modification in Figure 6 in the revised version.

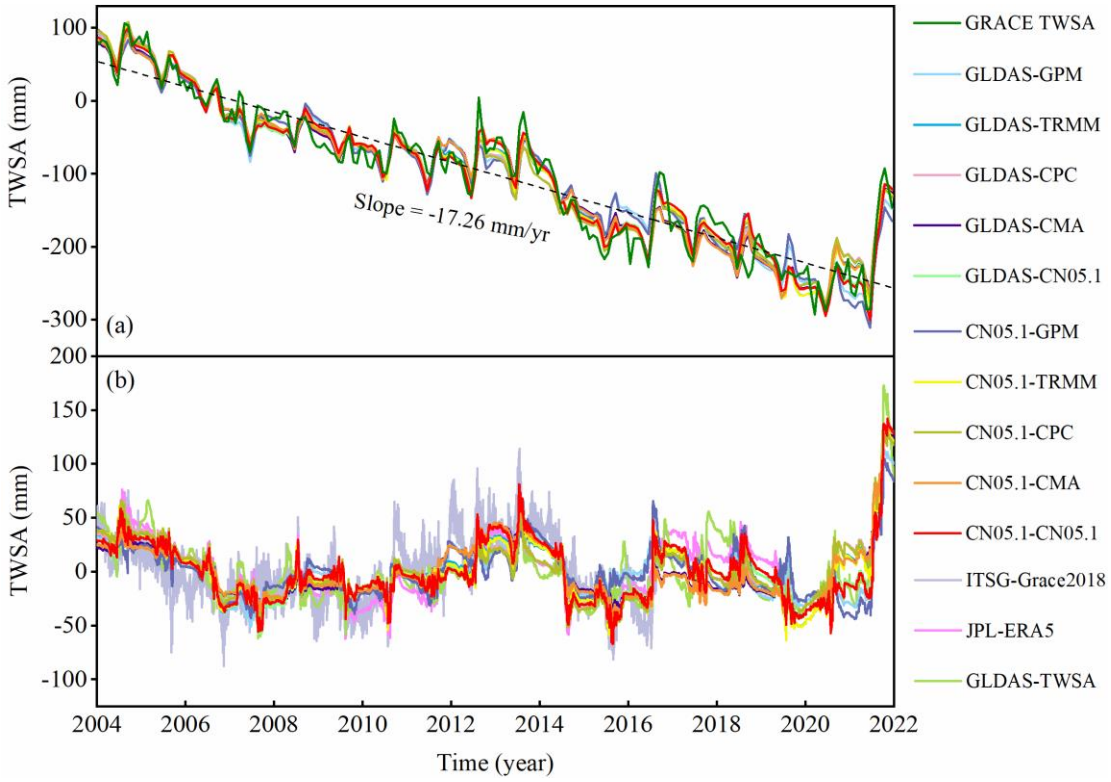


Figure S1. Comparations of reconstructed TWSA based on different precipitation and temperature. (a) monthly $TWSA_{total}$; (b) daily $TWSA_{residual}$

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6. The symbol of flood center in Figure 11 is not clear.

Response: Thanks for your suggestion.

Figure 11 in the original version has been improved and replaced by Figure S2 in the latest manuscript. Please see the modification in Figure 11 in the revised version.

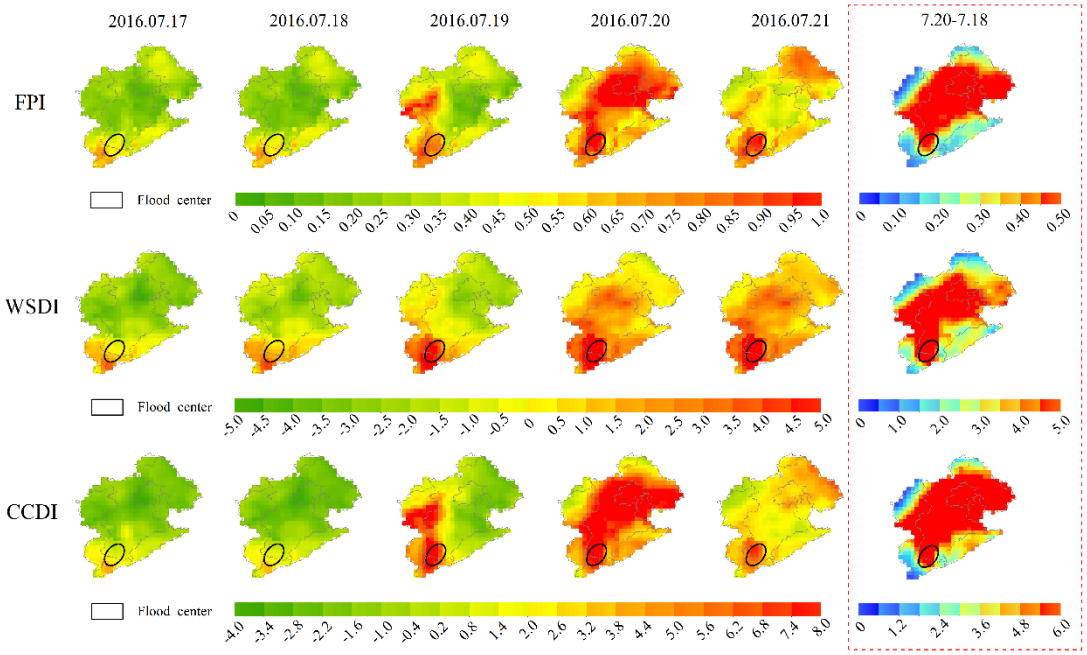


Figure S2. The spatial distribution of FPI, WSDI, and CCDI from July 17 to July 21 in the HRB.