

## ***Interactive comment on “Variations in water storage in China over recent decade from GRACE Observations and GLDAS” by X. Mo et al.***

**Anonymous Referee #1**

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### REVIEW SHEET

“ Variations in water storage in China over recent decade from GRACE observations and GLDAS ” X. Mo, J. Wu, Q. Wang and H. Zhou

Summary: The study has presented a detailed analysis of terrestrial water storage over several river basins in China and for the entire country as well. For the said purpose the study has utilized different model simulations from GLDAS and direct observations of terrestrial water storage from the GRACE satellites. The authors have done a commendable job in presenting a detailed analysis, which has significance in the current context of increasing water stressed condition in the country. Some of the major drawbacks of the presented work are long confusing sentences and over reach-

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ing conclusions. However, in my opinion the work presented here may be accepted for publication in the journal but with minor modifications as suggested below.

Minor Comments: 1) Pg. 3252. Line 26. Precipitation is not a component of TWS. 2) Pg. 3253. Line 1. Should be groundwater level. 3) Pg. 3256. Line 6. Gobi cannot be a land cover type. 4) In Equations (1) what is  $i$  and  $j$ ? This needs to be clearly stated in the text 5) It is not clear what is the difference between Errorregion and Errortotal ? Clear explanation is required in the text. 6) Pg. 3260. The entire paragraph starting from line no. 9 till 19 has to be rewritten. The text here is very confusing and it is not clear what the authors are trying to convey. 7) The statement made on Pg. 3262 line no. 24, (i.e. “Disagreement between..... in this basin) is not supported by the results and the conclusion seems to be far fetched. 8) The first paragraph of Section 3.3 is mostly one single sentence. Such long sentences are confusing and should be avoided. 9) Pg. 3264. Line 14. The sentence “..... where is intensively equipped with irrigation....” Does not make any sense. Please rewrite. 10) Pg. 3266. Line 9-11: A very confusing closing statement. Unfortunately there are many like this and has to be meticulously corrected. 11) In the Summary and Conclusion section the statement of attributing the TWS trends in certain basins to the overexploitation of deep aquifers is an assumption that is not supported by the results presented here.

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