Thank you very much for the constructive suggestions. We have revised the manuscript according to the comments. Please check the following response for detailed modification.

1. *In the attribution equation (6), the impact factors are precipitation, ET0 and w. In equation (7), the authors further present that w is the function of M and S. S is a function of precipitation and ET0. Thus, in equation (6), precipitation, ET0 and w are not independent. This independence could have impacts on partial derivatives. This uncertainties could be added and presented in the paper.*

Response: Thanks for your comments. However, it must be noted that the concepts of "*P*" and "ET_0" in the equation (6) and (3) are different: in the equation (6), they refer to the total precipitation and potential evapotranspiration in a year, i.e. annual *P* and ET_0; while in the equation (3), they represent the intra-annual distribution characteristics of precipitation and potential evapotranspiration, respectively, and thus the information of annual total amounts does not been contained in this equation. Therefore, *P*, ET_0 and ω are independent. The uncertainties in the contribution quantification are mainly from ω interpretation. The residuals in this study suggest that ω cannot be fully explained by M and S, and more factors should be incorporated.

As the changes in evapotranspiration has been decomposed without residual by the complementary method (Equation 6-7), the errors were mainly induced by the developed empirical formula for ω (Equation 11). It suggested that ω cannot be completely explained by *M* and *S*, and it might include some other factors. Therefore, discussing more factors influencing ω remains future work.

2. *The impacts of interannual changes of water storage could also be discussed in the paper. The traditional Budyko frame, i.e., equation (1), is conducted on average annual timescale. Therefore, delt_s can be ignored. In this study, the timescale is interannual and delts_s could be discussed in the uncertainty section. It would be better to add some reference to show that delts_s can be ignored on interannual timescale in the LP. The LP is a sub-arid and sub-humid area and delts_s may be relative small on interannual timescale.*

Response: We very agree with your opinion. In the section of discussion, we have added some reference according to your suggestion to show that the water storage change in the Loess Plateau is relative small compared with other regions of China.

Despite that catchment-scale water storage changes are usually assumed to be zero on long-term scale, the interannual variability of storage change can be an important component in annual water budget during dry or wet years (Wang and Alimohammadi, 2012), and cannot be ignored. However, the Loess Plateau has a subhumid to semiarid climate, the water storage and its annual variation are relatively small compared with humid regions (see Figure 5 from Mo et al., 2016).

For example, using GRACE (Gravity Recovery and Climate Experiment), the water storage variations in the Yangtze, Yellow and Zhujiang from 2003 to 2008 were analyzed by Zhao et al. (2011), and the values for the Yangtze and Zhujiang basins were 37.8 mm and 65.2 mm, while no clear annual variations are observed in the Yellow River basin (3.0 mm). Furthermore, Mo et al. (2016) found that the water storage in Yellow River kept decreasing from 2004 to 2011, whereas it was changing slowly with a rate of 1.3 mm yr^{-1}. Therefore, considering the small water storage change in study area, ignoring water storage change in a period of hydrologic year is reasonable.

References:

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